

CRANFIELD UNIVERSITY

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Critical analysis of interpersonal trust determinants in Virtual Teams,
working in capability planning in the identification of capability gaps
or needs, to provide required future military capability in the UK's
MOD

CRANFIELD DEFENCE AND SECURITY
PhD in Defence Acquisition Management

PhD THESIS
Academic Year: 2009 - 2012

Supervisor: Dr David Moore
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the degree of Doctor of Philosophy

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ABSTRACT

The United Kingdom's Ministry of Defence (MOD) *balances* defence policy aspirations and available resources through the capability planning process. Arguably, the cornerstone of this process is the cross-functional *integration* of skills and capabilities across defence. This is realised through a construct of Virtual Teams (VTs) called Capability Planning Groups (CPGs). Literature on the topic of *interpersonal trust in VTs* highlights the development of trust as a key element, if not the most significant, in pursuing desired outcomes. Furthermore, literature on this topic, in a defence context, is scarce.

This thesis undertakes a specific research approach, in accordance with its aim: *To develop a critical analysis of interpersonal trust determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability.* Consequently, three research questions are investigated: What are the pertinent determinants of interpersonal trust in the CPG?; What, if any, are the issues surrounding those determinants within the CPG?; and, What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members?

A critical review of pertinent literature is followed by the development of a research methodology under a phenomenological paradigm. Building from this, fieldwork was undertaken in two phases. As a result of semi-structured interviews to the members of a number of CPGs, the way in which interpersonal trust is generically perceived was conceptualised, and confirmation of the interpersonal trust determinants considered in an adapted model of interpersonal trust in CPGs was provided. In addition, a cross-case analysis allowed the integration of the data gathered, in order to identify target areas to be covered in the second wave of data collection. Subsequently, in Phase II, information was gathered through a survey questionnaire addressed to the whole population under consideration, in order to increase the robustness of the study, by confirming and providing further insights about key issues identified, as well as underpinning more powerful conclusions.

From this, interpersonal trust determinants pertaining to the CPGs, as well as the issues and risks regarding interpersonal trust, were asserted. A major finding was the conceptualisation of these issues and risks, because they are critical in determining if a specific behaviour will be taken. Moreover, as highlighted in the Defence Reform Report (2011), some of these are already identified as very real concerns, and appear as structural or enduring problems at MOD level. These elements are deemed a central focus for future research, because of their significance as contextual variables that have to be addressed in order to stimulate interpersonal trust and, consequently, improve performance in the CPGs. As the use of VTs is considered most likely to increase over time in MOD organisations, the findings from this research will be useful to all personnel involved in capability planning, and other cross-functional activities. In particular, it could inform the design of organisational processes and systems as capability management is taken forward.

Finally, the issues and risks associated with such virtual trust are asserted as not believed to be a manifestation of dysfunctional strategic planning because defence organisations can have clarity of purpose, can have clear direction, and yet still send competing messages. Paradoxically, that is the weakness of being strong. The analysis suggests that action has to be taken in order to stimulate interpersonal trust, because it is important to avoid or mitigate negative effects of contextual variables influencing CPGs. To this end, it is crucial to understand the role that interpersonal trust plays in the cross-functional work that is critical for the successful integration of skills and capabilities, and to ensure that people involved in capability planning and other cross-functional activities are assisted in understanding the nature of this challenging and complex context.

ACKNOWLEDGEMENTS

It is hard to quantify the contribution of a number of people through undertaking this PhD. I will try to make it qualitative then. The submission of this thesis would not have been possible without the active support of a large number of people. I would like to thank all of them.

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I am indebted to Mark Jenkins, Keith Eaton, Peter Antill and Dr Peter Tatham, and all the staff of the Centre for Defence Acquisition amongst others; they provided me advice, assistance and best contact. I am also grateful to Wing Commander Richard Howard and Flying Officer Thomas Godding, at the MOD's Capability Sponsor, and to all MOD personnel who become involved with this research. I appreciated their highly professional attitude. Meeting and working with them all was an inspiring experience. They did not need to help me, particularly to the extent that they did. I hope that this thesis, in some small way, will pay back their help.

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LIST OF ABBREVIATIONS

AOF	Acquisition Operating Framework
Bol	Balance of Investment
C4ISTAR	Command, Control, Communications, Computers, Information/Intelligence, Surveillance, Targeting, Acquisition and Reconnaissance
CADMID	Concept, Assessment, Development, Manufacturing, In-service, and Disposal
CBP	Capability Based Planning
CI	Capability Investigations
CMG	Capability Management Group
CMM	Capability Management Measure
CMP	Capability Management Plan
CMS	Capability Management Strategy
CPG	Capability Planning Group
CRS	Confidential Report System
DACP	Defence Acquisition Change Programme
DCDC	Development Concepts and Doctrine Centre
DCDS(Cap)	Deputy Chief of Defence Staff (Capability)
DE&S	Defence Equipment and Support
DII	Defence Information Infrastructure
DIP	Defence Industrial Policy
DIS	Defence Industrial Strategy
DLoDs	Defence Lines of Development
DoD	Department of Defence (US)
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, and Facilities
DPAs	Defence Planning Assumptions
DSG	Defence Strategic Guidance
DSG	Defence Support Group

DSTL	Defence Science and Technology Laboratories
DTS	Defence Technology Strategy
ECC	Equipment Capability Customer
FE@R	Force Elements at Readiness
FLC	Front Line Commands
HoC	Head of Capability
ICT	Information and Communication Technology
IPTs	Integrated Project Teams
ISTAR	Information/Intelligence, Surveillance, Targeting Acquisition and Reconnaissance
IT	Information Technology
JCB	Joint Capabilities Board
MOD	Ministry of Defence (UK)
MUC	MOD Unified Customer
NAO	National Audit Office
OF5	Denomination for Captain, Colonel and Group Captain; for the Navy, Army and Air Force respectively; or Civil Servant grade equivalent
PACE	Performance, Agility, Confidence, Efficiency
PPSG	Policy and Programmes Steering Group
PSF	Project Support Function
R&Ps	Resources and Plans
RQ	Research Question
SDR	Strategic Defence Review
SDSR	Strategic Defence and Security Review
SIT	Science, Innovation and Technology
SO1	Denomination for Commander, Lieutenant Colonel and Wing Commander; for the Navy, Army and Air Force respectively; or Civil Servant grade equivalent
SO2	Denomination for Lieutenant Commander, Major and Squadron Leader respectively, or grade equivalent
TLCM	Through Life Capability Management

TLMP	Through Life Management Plans
TTCP	Technical Cooperation Program
UOR	Urgent Operational Requirement
VTC	Video Technical Conference
VT	Virtual Team

1 Through life capability management – A context for research

1.1 Through life: An approach to the provision of military capability in the UK

The Strategic Defence Review (SDR), in 1998, pointed out that¹ social and technological change can be expected to impact in terms of military capability for much more precise application of force and, equally, as an area with potential for practical and cost benefits in the way armed forces are trained and supported. In the aim of the Review, it was pointed out that there must be² a clear long-term view of objectives of foreign and security policy and how defence is expected to contribute to them and, also that Government must show good value for money in defence spending. Furthermore, the document emphasised,³ as one key to improvement, the adoption of a through-life approach covering both acquisition and in-service management. In this regard, it is often the case⁴ that the initial purchase cost of a system or building is only a fraction of the cost of operating or maintaining it throughout its life; the figures involved can be significant for defence equipment because⁵, typically, it will have a long service life – twenty-five years is not uncommon.

For example, regarding the lifespan of different kinds of equipment, the type 23 class frigate was conceived in the late 1970s; the first of class was ordered in the middle 1980s, subsequently the first ship was launched in the late 1980s. Even though the Future Surface Combatant, the programme to replace Britain's Type 23 frigates and another smaller ships, has not yet reached the main investment decision stage, its principal element is expected to enter service after 2020, and an intermediate design is expected in the late 2010s. In a different in nature, and much smaller in size, category of equipment, the SA80 A2 rifle, the British individual weapon, can be mentioned. Its preliminary design work started in the early 1970s; subsequently, prototypes of the weapon were trialled in the late 1970s. Afterwards, it was issued to the British armed forces in the late 1980s. There was a major mid-life update in the early 2000s, more upgrades are on stream and there are no known plans to replace it in the near future. Here two diverse examples can be seen, with an expected service life loosely over twenty-five years. Moreover, there are no indications that suggest this situation could change in the medium to long term.

Accordingly, to adopt from the outset a comprehensive, whole life approach to the work undertaken to transit initially from Defence Policy to an approved and deliverable acquisition programme is a key element in pursuing 'value for money' in defence spending. This approach is important because most of the whole life-cost of equipment implications are decided in these initial stages. In this regard, adoption of improved practices brought from the private sector has been a keystone of much management activity in the defence arena. Moreover, one of the common principles⁶ in changes in the way in which the MOD acquires goods and services – ranging from high technology fighting equipment to commodities – has been application of best practice from the civil and private

sectors. Some of those practices are identified addressing matters of common concern⁷ in active dialogue at all levels, and developing jointly practical guidance on specific issues. Consequently, enforcing this principle would facilitate achieving value for money through combination of best private sector practice with defence management expertise.

Arguably, since the late 1970s and early 1980s, with the UK's programme of privatisations, there has been an increasing adoption of broadly accepted concepts and practices in public management, which could be placed⁸ as theoretical developments in the fields of public administration and political science, and defence management is a part of public management science. Moreover, extensive literature underpins the idea of the relevance of those developments to the public sector. It is addressed as new public management⁹, the development of public administration and management in the UK and at international level. Arguably, one example of these is the health sector¹⁰ in the UK, which has undergone some of the most extensive new public management reform in the UK.

A joint, long term perspective for the provision of military capability is the overriding concept. The SDR stated¹¹ that in areas of rapid technological change, a more incremental approach was needed, and at the same time bringing together the requirements, technology and evaluation, procurement and logistics functions into a single project team. The Review required to ensure¹² that support and headquarters functions are firmly focused on future needs and provided in the most effective and efficient manner, making use of modern techniques and, increasingly, on a Joint Service basis.

In order to bring together all the relevant perspectives to identify and prioritise competing needs, a new organisation was created. One of the key measures¹³ introduced by the SDR was the creation of the Equipment Capability Customer (ECC) organisation, responsible for determining future equipment capability requirements and priorities for procurement, obtain approvals for the capability and finally, authorise acceptance. The ECC focused on a capability approach¹⁴, this meant: framing future requirements in terms of mission needs, not assumed equipment solutions; adopting a more rigorous approach to determining the optimum balance of investment in a Forward Plan; and adopting a through-life approach to capability management. The Forward Plan being the result of employing a rolling wave planning methodology, which produces a set of approved and resourced defence projects, discharging in this way one of the departmental functions: to establish a resourced plan to develop policy. Then, this organisation was tasked with setting up and prioritising requirements, with a whole-life capability perspective.

Subsequently, a comprehensive review of the acquisition system was undertaken and its resulting holistic approach recommendation was endorsed. In 1997, the Defence Secretary stated that the SDR would include a "Smart Procurement" initiative¹⁵ aimed at future equipment procurement being executed faster, cheaper and better. This initiative was undertaken with industry, allowing a review of the Ministry of Defence's equipment acquisition system. Central to its findings was¹⁶ a 'Through Life Systems Approach' to

procurement, which defines a new equipment or a new capability in the context of its relationship with other equipments and wider defence capability areas. The name of the initiative changed to Smart Acquisition in 2000 reflecting¹⁷ its sustainment and reinforcement across the Defence Department's 'acquisition community'. At the heart of Smart Acquisition there was a change¹⁸ to integrated management of the delivery of all aspects of capability, from identification of the need for the capability to its disposal. This approach is known as Through-Life Management.

Hence, in theory and practice the UK's defence sector has embraced progressively a through-life approach to capability management. Arguably, capability management activity was traditionally performed with a tendency to manage projects to replace equipment, focused on conventional threats. Currently, it is rather common to consider capabilities in the context of their interdependencies with other equipments and wider defence capability areas. This is addressed in 1.6.3 'Capability planning process'.

Even though the through life approach to managing capability was officially established¹⁹ further on in 2006, arguably, the scope of the term capability management employed at that time, in the Policy Paper No.4 Defence Acquisition (2001), was different to subsequent definitions. According to the paper, capability management²⁰ considered factoring the whole life costs in investment decisions, and ensuring that all stakeholders had a voice in the decisions. This would be consistent with the National Audit Office (NAO)'s Major Projects Report 2009, which stated that there were previous attempts²¹ to introduce similar, less wide-ranging initiatives.

As a consequence, the progressive introduction of this through-life approach to the provision of military capability brought a significant change in terms of concepts, and subsequently in internal processes and organisations.

1.2 Rationale and content

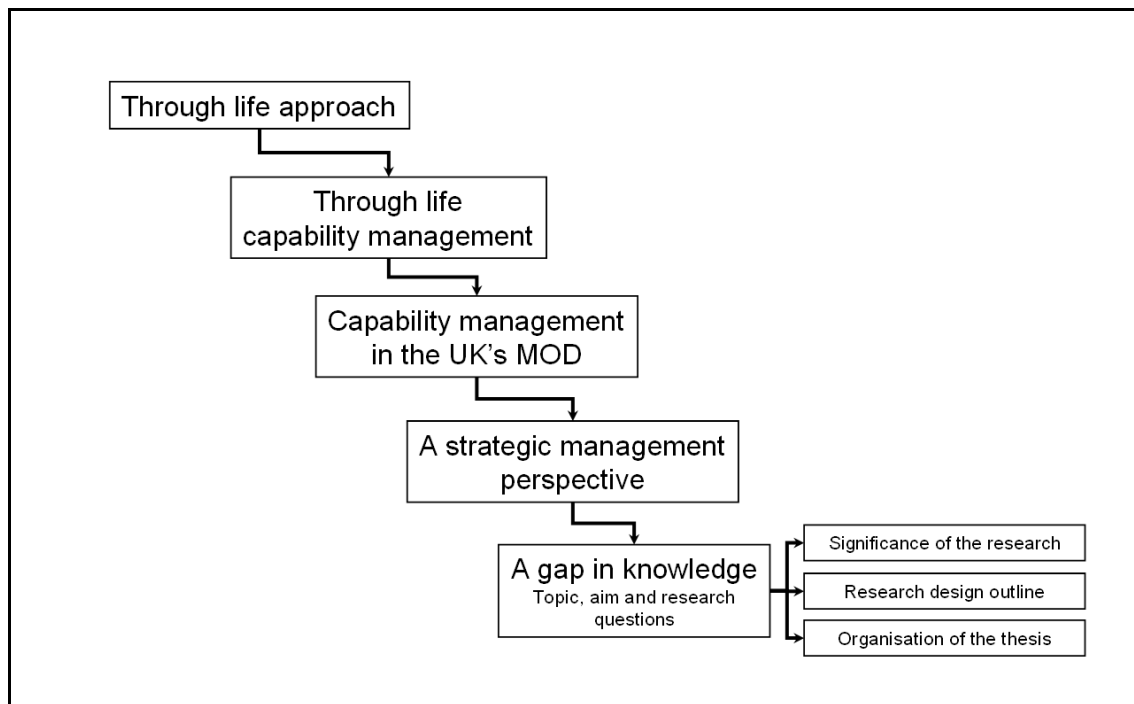
The purpose of this chapter is to contextualise and justify the topic to be researched. In addition, it summarises an outline of the research and the organisation of the chapters of the thesis. It provides the conceptualisation under which the development of future military capabilities is planned, with focus on the cross-functional work that different organisational areas in defence perform through individual representatives.

The chapter is organised following a reasoning linking the strategic context for the planning of future military capabilities in the UK's Ministry of Defence (MOD), and the appreciation of a gap in knowledge to be addressed by this research. This is shown in Figure 1-1 Rationale of Chapter 1.

The SDR provide an initial point to consider and analyse, together with some subsequent documents, major efforts to improve the provision of military capability in the UK. To meet changing and challenging conditions to provide military capability, there has been persistence to improve capability management activity. The SDR is considered as a major milestone in an effort

to take on a long-term view of defence's objectives and to adopt a whole-of-the-life view of capabilities, through the adoption and development of best practice to increase value for money enabled by integrated management. These major changes encompassed culture, processes, systems and behaviours, as well as new ways to measure progress and demonstrate achievements. In addition, innovative approaches were steadily introduced through time, such as the use of Integrated Project Teams (IPTs), Through Life Management Plans (TLMPs), increasing involvement of industry, and emphasis in planning in terms of capabilities.

Figure 1-1 Rationale of Chapter 1



Source: Author

Further, in Section 4, the analysis focuses on through life capability management, as the cornerstone to improvements in the provision of military capability. Through life capability management is very important, as it constitutes the fundamental philosophy under which improvement in the management of military capabilities is undertaken.

Subsequently, in Section 5, the emphasis of the chapter is on capability management, through the conceptualisation of capability management in the UK's MOD, as the approach to balance policy and aspirations in an affordable and achievable manner. Within that, the conceptual framework underpinning the management of capabilities is discussed. All of this, in order to gain understanding about what it implies for processes and organisations in the context of capability planning in defence.

Then, Section 6, A strategic management perspective, analyses the theoretical underpinning for capability planning activity that can be found in strategic

management literature; as well as technical cooperation agreements, amongst some countries, around the conceptualisation of capability based planning, (although different nations implement their own capability planning variables). In that context, the UK's capability planning process is emphasised as the vehicle to deliver a consistent and coherent resourced plan to develop military capabilities.

Finally, emerging from the cross-functional integration of different defence organisations, a gap in knowledge is identified. The contribution to knowledge through the research, and the subsequent significance given, and the aim and objectives of the thesis are stated. The significance of the research by means of its aim and objectives is stated. Figure 1-1 presents diagrammatically the rationale for the structure and contents of Chapter 1.

1.3 Smart Acquisition Initiative: A demanding implementation

Improved approaches to a range of activities from long term planning to adoption of commercial practices, among others, in the UK defence acquisition realm, involved a major change in paradigms and culture that demanded a wide span of measures. From the outset, it can be said that Through-Life Management of the delivery of military capability is a subject of complex nature and requires a great deal of work to include a variety of relevant stakeholders and to endorse a forward-thinking, long-term perspective to be applied to decision-making across the whole acquisition cycle.

Historically²², the functions of requirement definition, procurement management and through-life support have been organisationally separated. This has produced arms-length relationships between stakeholders which makes it difficult to get the right balance between time, risk, cost, performance and through-life support. In pursuing improved equipment acquisition, key measures²³ identified in the initiative included:

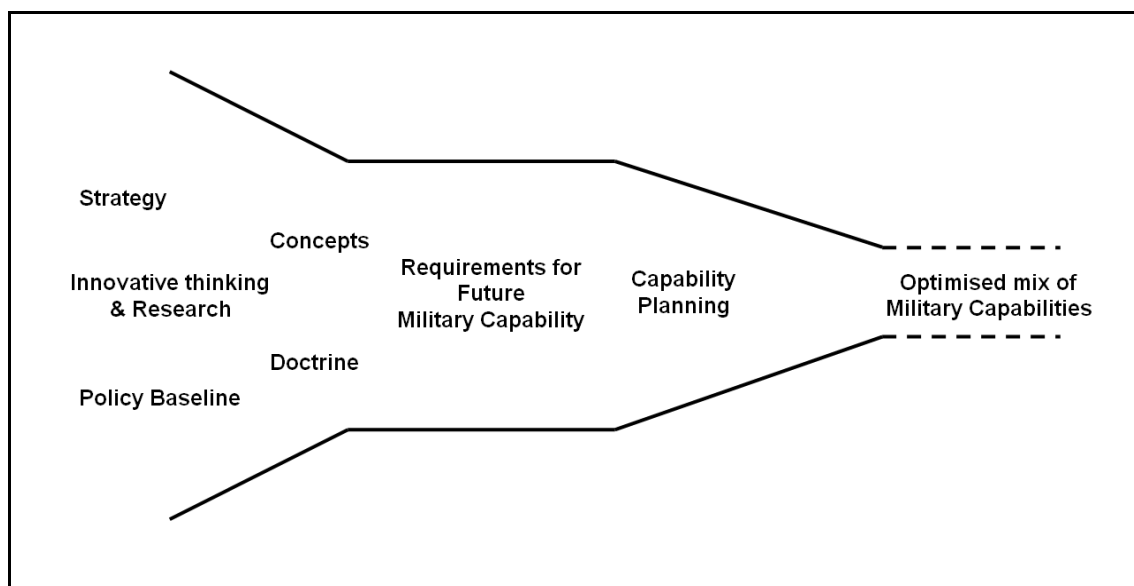
- Fuller early planning of projects with appropriate trade-offs
- Partnering arrangements with industry
- Exploitation of new procurement techniques including incremental acquisition
- Improved estimating and predicting - integrated through-life cost forecasting
- Improved commercial practices

As part of Smart Acquisition, Integrated Project Teams (IPTs) were introduced to²⁴ improve acquisition by moving from a functional to a project-based organisational structure. These teams were intended²⁵ to be responsible for managing equipment throughout its life cycle. IPTs were considered a key enabler of Smart Acquisition together with involvement of all key stakeholders.

In 2002, a new policy document was launched, aimed at²⁶ enhancing the competitiveness and sustainability of the UK defence industry, while continuing to provide high quality equipment at best value for money. The Defence Industrial Policy (DIP) stated that²⁷ Defence procurement strategies and investment decisions involve a range of factors, which together ensure that the best value for money solutions for the armed forces, and for the taxpayer can be identified. Also it indicated, when addressing the key factors taken into account in acquisition decisions, that the MoD²⁸ has a responsibility to achieve the best value for money from its equipment programme and this forms the core of the evaluation, including increasing emphasis estimates of whole life costs and; that long-term value for money is wider than that for individual projects.

In order to capitalise on the initial work of identification of needs, a focus on planning in terms of capability is essential (Figure 1-2) to optimise the resulting mix of military capabilities. The Defence White Paper in 2003 pointed out that concepts and doctrine²⁹ are the processes through which requirements for future military capability are developed to meet required effects and establish how military capability will be subsequently applied to achieve those effects. In addition, the White Paper emphasised that³⁰, effective Defence Management plays an important role in maximising military capability. This is a continuous process, kept under constant review. Moreover, this document stressed the significance³¹ of planning in terms of capability to deliver effects rather than like-for-like platform replacements. This way, planning in terms of capability allows concentrating on effects required instead of platforms optimizing the mix of capabilities developed. Thus, thinking in terms of capability would allow shifting from managing projects to replace equipment, focused on traditional threats; to application of systematic methodologies for development of capabilities, within resources constraints, relevant to current and future threats.

Figure 1-2 Capability planning context



Source: Author

The analysis required demanded a military capability to be divided into manageable parts or so called 'lines of development' in order to³² enable the coherent, through-life development and management of defence capability. The fifth edition of the Smart Acquisition Handbook reiterated, as in previous editions, that the application of Smart Acquisition, from a through life management perspective involves³³ building on the 'whole life approach' and taking into account all lines of development to deliver a fully integrated defence capability. Also, the handbook states as key features³⁴ of through life management:

- Developing and using a realistic, costed, whole life plan known as the Through Life Management Plan to manage the project through out the lifecycle
- Using an appropriate acquisition cycle
- Considering the integration of all the lines of development which compromise the defence capability
- Managing the cost of ownership (whole life costs) of defence capability. Ensuring that investment decisions take full account of all the longer term implications of acquisition across all lines of development

The implementation of Through-Life Management has been a continuous and comprehensive effort and it has been under permanent scrutiny. The change to Through-Life Management³⁵ proved to be a greater challenge than originally anticipated. In mid-2002, Through-Life Management was identified as a corporate change programme in its own right.

Further, in 2003, the NAO conducted an examination to report whether Through-Life Management was leading to effective delivery of UK military capability; affirming that Through-Life Management involved³⁶ a major change in culture for organisations involved, encompassing changes in processes, systems and relationships. In this regard, the report stated that new tools and information sources, new mechanisms for engaging and changing the behaviour of the defence acquisition community and new ways to measure progress and demonstrate achievements are all essential to successful Through-Life Management. According to another NAO's report, the 2003's Major Projects Review, the wider Department³⁷ was considering options for improvements in areas such as risk management, through-life management and joint working with industry. Parallel improvements were also envisaged in different areas, together with adjustments in the acquisition process. Early changes in Through-Life Management underpinned subsequent improvements through time, in order to increase gains for defence as a whole.

Nevertheless, some criticisms were raised regarding the development of Smart Acquisition. On the one hand, in 2004, the House of Commons Defence Committee³⁸ reported that, in general, progress on newer projects (Smart Acquisition projects) was better, although there were some worrying delays and cost growth on those also; and that of the seven principles of Smart Acquisition

one was implemented and working well (the fund holding central military customer). Of the other six, none of them was implemented fully and in some cases was hardly implemented at all. On the other hand, the following year, the House of Commons Committee of Public Accounts³⁹ reported that the principles underpinning Smart Acquisition were sound, but were not been convincingly improved defence procurement because they were not been consistently applied.

Importantly, subsequent changes involved industry as well. Later, in 2005 the Defence Industrial Strategy (DIS), built on the Defence Industrial Policy (2002), by giving more transparency to future defence requirements on the lines of the modernisation effort. It recognised⁴⁰ a shift in defence acquisition away from the traditional pattern of designing and manufacturing successive generations of platforms towards a new paradigm centred on support, sustainability and the incremental enhancement of existing capabilities from technology insertions. This shift put emphasis⁴¹ on Through Life Capability Management (TLCM), the use of open architectures and maintaining the systems engineering competencies that underpin it. In addition, the DIS stated that the future approach to acquisition must be built around achieving primacy of through life considerations; coherence of defence spending across research and development, procurement and support; and successful management of acquisition at departmental level. Thus, the meaningful impact of the through-life approach on acquisition and support activities required industry to change according to new challenges ensuring that the armed forces continue to have the equipment they need.

This milestone in the relationship between defence and industry introduced opportunities in a much more dynamic environment. From the industrial perspective, this commitment⁴² to effective through life management of defence capabilities and assets to improve capability and agility, enable technology insertion and reduce whole-life costs, creates opportunities for industry. In addition, designing equipment with TLCM in mind influences the design to make future modifications easier. Moreover, the maintenance of capability through a system's life requires the original understanding of the system to be retained, with the basic rationale for previous trade-offs, and the dynamics of the relationship of the system's parts, captured and understood. Only by doing this can the implications of integrating new equipment be understood, and opportunities seen for inserting previously unavailable technology to improve the system's safety and performance or drive down cost. Hence, in order to keep pace with TLCM and take advantage of opportunities, realising potential mutual benefits, industry had to encompass significant changes as a consequence of the implementation of the through-life approach.

One of the principles⁴³ of Smart Acquisition is a better, more open relationship with industry. This principle implies to recognise that the objective of industry is to maximise value for the shareholder. Similarly, defence seeks⁴⁴ to provide best value for money for the taxpayer. In all areas of acquisition, best value for money⁴⁵ denotes the solution that meets the requirement at the lowest through life cost. Consequently, success to both parties could be achieved through

improved performance and lower cost to the defence sector, and higher shareholder value to industry. In addition, the partner⁴⁶ is given opportunities to innovate and seek value for money. It is in the interest⁴⁷ of both the MOD and its suppliers to structure – and, where appropriate, restructure – contracts to ensure that they continue to deliver best value for money over time.

Central to the DIS is recognition⁴⁸ of the need to develop much closer relationships with industrial suppliers. Critical⁴⁹ to this is the need for transparency of future plans. In return for greater visibility of defence future plans⁵⁰, it was expected suppliers to increase the transparency of their future plans and business information. In the end, interaction⁵¹ with this industrial base must provide good value to the taxpayer and good returns to shareholders.

Although progress was being made, it was expected that the results would be seen through a long period of time. Even though significant advances were seen since the SDR, seven years later the improvement effort continued being sustained, in order to strive for the full realisation of potential benefits. Soon after the release of the industrial strategy, the NAO's 2005 Major Projects Review, reporting advancement⁵² in implementing Smart Acquisition found that there was further progress on measures to improve performance, identifying improvements focused on the following areas: performance of key suppliers; the skills and development of staff; project and risk management; increased use of trade-offs between time, cost and capability of equipment; better joint working of those responsible for acquisition within the Department; and stronger project scrutiny at all levels. Also, it recognised that it would take some time before the full impact of these measures although improvements were expected sooner in non-major projects. Consequently, the profound nature of the changes encompassed required a sustained effort with a steady achievement of benefits through time.

1.4 Through Life Capability Management

1.4.1 Through Life Capability Management: A logical evolution

Notwithstanding the many and significant advancements undertaken, the commitment with continuous advancement was not left aside. A further review brought more changes.

Persevering with the TLCM approach, in 2006 a new examination was carried out. The Enabling Acquisition Change Report⁵³ addressed a number of themes which re-emerged despite efforts to address them. Among others, it can be mentioned the need to embrace whole life costs and link through life support to acquisition decisions. The methodology employed for the review included a gap analysis on the extent to which the MOD's acquisition arrangements and practice matched key characteristics set out in the report. The key points identified in this analysis, relating to TLCM were⁵⁴:

- A unifying culture for defence acquisition had yet to be achieved.
- Lack of unified planning process aligned to the requirements of TLCM.

- Lack of fully embedded incremental approach.
- Insufficient understanding of risk and overoptimism.
- Lack of agility in the defence programme.
- Equipment Capability Customer did not plan on TLCM basis to a sufficient degree. The Department risked failing to appreciate fully through-life costs.
- Absence of TLM targets.
- Inconsistency in relations with Industry.
- Shortage of sufficient acquisition skills.

Moreover, this report advised that previous findings remained relevant, with TLM stressing the need to ensure that military capability is built from the most cost-effective mix of components, and is both affordable to operate through life and readily adaptable. With this end, it recommended the creation⁵⁵ of an integrated procurement and support organisation, consisting in clusters of through life project teams, achieving in this way to break down barriers between procurement of equipment and its through life support. It also recommended the development of a set of Acquisition System performance metrics, allowing management to address systemic acquisition issues and focus on TLM.

In relation to capability planning activity, the report reaffirms that TLM implies⁵⁶ an approach to the planning and management of military capability with a holistic view of current and future capability. This implies the need to trade between the present and the future. In addition, it stated that in capability-based planning, the highest tiers of metric exist at⁵⁷ the 'whole of force' and 'capability' levels. However, according to the report, these are abstract and can be difficult to measure and communicate. After considering different alternatives, the report recommended⁵⁸ the adoption of a target set which reinforced through life delivery by setting targets for the delivery of a defined level of project performance and its cost effective sustainment through life. Hence, it was highlighted that capability planning requires a long-term perspective and comprehensive approach as well.

Arguably, to realise the considerable potential of TLM cultural and behavioural change is paramount. It requires an immense effort in the defence context, were people, civilian or not, would have a high commitment to their origin cultures and subcultures; moreover if it is taken into account that factors affecting performance are diverse, and understanding the contribution of culture is complex if not impracticable.

Anyway, all the recommendations of the Enabling Acquisition Change Report developed into significant changes with salient initiatives as the merging of the Defence Procurement Agency and the Defence Logistics Organisation into Defence Equipment and Support (DE&S), bringing together acquisition and through life support, and the commencement of an acquisition reform

programme called Defence Acquisition Change Programme (DACP). This will be discussed later in this subsection.

Nevertheless, technology had to play a role in taking advantage of TLCM. A technology strategy focused on TLCM was also delivered. Further in 2006, the Defence Technology Strategy (DTS) built on the DIS, giving greater emphasis⁵⁹ to through life capability issues, bringing together research and the sector priorities with improvements to ways of working in a TLCM context. The DTS considered⁶⁰ the need for technologies and a changing approach to technology management; to support TLCM and reduce through life cost of ownership, as well as enhancing military capability. Moreover, the strategy pointed out as important cross-cutting technologies those which enable TLCM. Furthermore, it identified⁶¹ specific technology areas where it was needed to retain or develop capabilities in the UK for assurance of continued and consistent equipment performance or to support more general military capability.

Moreover, the DTS indicated that to maximise the benefit that technology contributes to TLCM of defence systems there must be in place⁶²:

- Procurement approaches that are based on TLCM.
- Enterprise models for research, development and exploitation that recognise and use the fact that cross-cutting technologies provide advantage across multiple capabilities.
- Regeneration cycles and technology insertion opportunities that can exploit the pace of advance in cross-cutting technologies and that are not determined by platform lifecycles.
- Modularity, open architectures and assurance methods to reduce the cost and time involved in inserting technology and upgrading systems.

Furthermore, the DTS recognised⁶³ that to make rapid progress towards a through life approach to technology and capability management, the necessary technologies, approaches, skills and processes needed to be developed, exercised and improved. This was coherent with the DIS and the Enabling Acquisition Change report which, amongst others documents, have highlighted the need⁶⁴ to integrate science and technology investment, future capability planning, the acquisition and support communities and the resources of UK industry and academia. In this TLCM context, it is apparent that the DTS provides clarification of MOD's technology needs and priorities to enable the capability planning process.

Subsequently, the DACP built on the Smart Acquisition initiative and all its related developments to introduce major changes. The DACP was considered⁶⁵ a wide ranging programme of change to the way the MOD undertakes acquisition, intended to⁶⁶ improve the MOD's ability to deliver required military capability to support operations by UK armed forces, while giving better value for money to the taxpayer. The programme focused on four work streams: planning and TLCM; appropriate approaches to acquisition; people, skills and behaviours; and knowledge management.

Especially significant for the changes under the DACP were the next three themes: planning and delivery of equipment and support, introduction of TLM and an improved relationship with industry. These themes are explained next.

The first theme involved⁶⁷ the merger of DPA and DLO, a re-emphasis on through life management planning and the reassignment of programming responsibilities for equipment and its support over a 10 year period; in order to remove financial, organisational and procedural barriers. The second theme considered the official introduction of TLM as a way to think about⁶⁸ a much wider range of options for meeting new capability needs on a much longer term, through an improved capability planning process. In particular, the stated purpose⁶⁹ of TLM was to ensure the best value for money for the taxpayer in term of military capability. Finally, the third theme emphasised the need⁷⁰ for a more effective partnering with industry in capability planning, in the delivery of equipment capability and in research, through greater transparency and closer working. Anyway, a prevention was made in the DACP founding document. Delivery of the improvements⁷¹ will take time, effort and further refinement in the light of experience; most importantly, it will require substantially different behaviours from all involved.

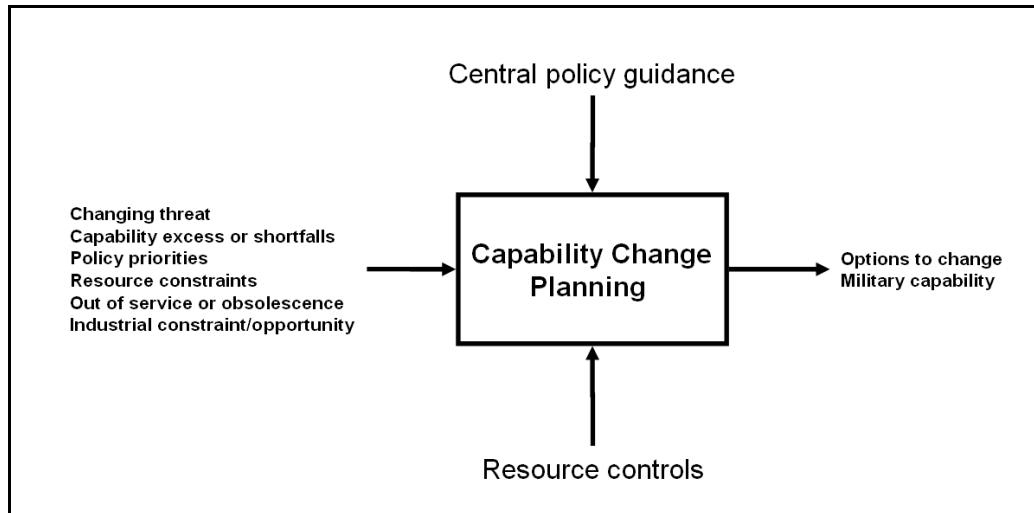
There are two major points addressed in the DACP from a capability planning perspective. Firstly, the introduction of a new MOD Unified Customer (MUC), which succeeded the ECC, led by an MOD Capability Sponsor, to⁷² translate industrial capacity into effective military capability, merging equipment and support provision with the other DLOs. The Capability Sponsor was made responsible⁷³ for leading the Capability Change Planning Process (later termed capability planning) and identifying the equipment and support requirements. To fulfil its strategic purpose, the Capability Sponsor had to carry out the following roles: Capability Planning, Programming and Delivering Programmes. Secondly, the introduction⁷⁴ of TLM focusing the main effort of capability developers to developing the most effective TLM solution to meet future capability needs. This is achieved through the development of options which respond to the consideration of relevant inputs as seen in Figure 1-3.

Three years later, in 2009, the DACP was formally closed, but the change agenda continued. The Permanent Secretary stated⁷⁵ that a substantial amount of change was delivered in a relatively short period, but as the programme closed, there was significant unfinished business in terms of realising the blueprint for 2012. This included⁷⁶:

- Further development of through-life capability management, in particular extending TLM into capability delivery;
- Further development of the DE&S through the Chief of Defence Materiel's Performance, Agility, Confidence, Efficiency (PACE) programme;
- Transformation of the commercial function;

- Cross-cutting work e.g. on information/knowledge management and on people, skills and behaviours.

Figure 1-3 Development of Options in Capability Planning



Source: Author from Defence Acquisition Change Programme, High Level Design (Blueprint), 2007.

As it has been seen so far, besides other initiatives, the DACP represented another step in an enduring commitment to what appears as a logical evolution, where initiatives build on previous advances in defence acquisition. Many suggestions has been presented and adopted pragmatically through time, recognising that delivery of better outcomes in TLCM takes time and effort.

1.4.2 Through Life Capability Management: A case of continuous improvement

As mentioned earlier, in the defence acquisition arena there has been seen a permanent examination and advancements over what has been achieved. During 2009 two independent reviews addressed directly or tangentially this subject. They are known as the Gray Report and the Nimrod Review.

The former, a Review of Acquisition for the Secretary of State for Defence, in 2009, stated that TLCM seeks⁷⁷ to harmonise and maximise defence output by ensuring that all areas of defence activity that have an impact on one another are considered together. Moreover, the report affirms that the TLCM structure⁷⁸ is unobjectionable in principle, but fraught with potential pitfalls in practice. Also, the report asserts that the objective⁷⁹ that TLCM is trying to achieve is fearsomely complex and inherently based in financial data. In the end, the Gray Report recommended⁸⁰ routine Strategic Defence Reviews, as a mechanism to ensure periodic adjustments of the MoD's plans, keeping a balanced equipment programme. Moreover, the report made recommendations to separate and clarify roles and accountabilities between the MoD Centre and the DE&S and to significantly improve the operation of TLCM. Also, in order to inject key skills and tools into the DE&S the report suggested a partnership with a private sector

programme management organisation through a Government-Owned, Contractor Operated entity. Specifically, in relation to TLMC, the report suggested⁸¹ to reconsider its role because the examined structure would be overly complex and lacking data for decisions. In addition, it proposed focus TLMC in first instance on financial modelling of acquisition against support costs, incorporating financial models to model these variables. Additionally, the report suggested establishing a sub-committee of the Defence Board tasked with developing an equipment plan aligned with strategy, affordable and realistic. All in all, the recommendations were acknowledged⁸², and changes were directed consistent with the report main recommendations, but it was stated that DE&S would remain as part of the MOD.

The Nimrod Review, a review to examine the broader issues surrounding the loss of an RAF aircraft in 2006, made further recommendations⁸³ in eight key areas, amongst them it suggested to take appropriate action on the Gray's recommendations urgently.

Subsequently, the NAO in its 2009's Major Projects Report addressed a major overcommitted budget and its management, improvements in project cost controls, and improvement on measurement and management of military capability.

Firstly, the NAO reported that there was a gap⁸⁴ between estimated funding and the cost of the defence budget over the subsequent ten years. Moreover, the MOD took short term decisions⁸⁵, slowing down projects underway, to address a deficit in the defence programme which would lead to long term cost increases representing poor value for money. It was recognised that the defence budget was consistently overcommitted⁸⁶ and that closing the gap would require audacious action. Regarding the analysis of individual projects, the NAO suggested that there were improvements⁸⁷ in managing individual projects⁸⁸, in project cost control and innovative practice. It is notable that in this report, for the first time, the status⁸⁹ of each of the DLoDs, for projects on which the main investment decision has been taken, was included, although recognising that there is more work to be done to ensure consistency of assessments and underlying data. The third part of the review addressed the improvement of measurement and management of military capability under TLMC. It stated that correctly implemented⁹⁰, TLMC should generate more reliable and robust management information than the one that was available. Also, the report affirmed that the principles underpinning the move to TLMC were sound, and that if they could be introduced successfully, the potential cost and operational benefits are significant. Regarding the earlier introduction of Programme Boards, the NAO found⁹¹ signs that by bringing key decision-makers together more coherent judgements were being made.

Altogether with mentioning that securing⁹² the cost and operational benefits of TLMC will not be easy, as experience from previous attempt to introduce similar, less wide-ranging, initiatives in the past shows; the NAO's 2009 Major Projects Report pointed out that there are other systemic issues⁹³ to address, namely: the lack of a stable budgetary environment, the fact that program boards cut across the Department's existing budgetary and organisational

structures, and securing full support from all parts of the Department and its industry partners.

As a consequence of the Gray Report's proposals, a Strategy for Acquisition Reform was published in 2010. Even though the strategy⁹⁴ recognised that independent reports found evidence of real improvements, it stated that previous reforms had tended to focus on shortcomings in the way projects had been managed. Also, the strategy highlighted⁹⁵ that challenges are constantly evolving and that a succession of reforms to the acquisition process have been delivered, each building on the last, and between them delivering significant improvement.

The strategic aim of the Strategy for Acquisition Reform⁹⁶ was to make better decisions about what equipment (and wider services) was bought, and how it was ensured that it was delivered on time, to cost and provided the desired performance. Two of the six fronts for action⁹⁷ with this end, were improving internal acquisition skills and capabilities and, embedding a Through-Life approach to managing capability. In this regard, it conceded that the main limitation⁹⁸ was a lack of reliable and consistent management information across all the disparate aspects the Through-Life approach seeks to unite.

Three of the strategy's main work strands are more directly related to capability planning⁹⁹: the improvement of key acquisition skills, improvement of management information and the development of a stronger approach for cost estimating. Salient activities¹⁰⁰ in this context were a comprehensive skills audit across MOD Capability Sponsor; the definition of management information requirements for key decision-making bodies and, establish a common framework for management information and; the improvement in staff skills and understanding in the use of should-cost techniques.

Subsequently, a green paper, in preparation for a further strategic defence and security review, stated that a full review¹⁰¹ of strategic planning processes was undertaken in order to simplify the link between high-level policy and force structures it drives. Further on, the Strategic Defence and Security Review (SDSR) acknowledged the necessity¹⁰² to bringing the defence budget back to balance. The SDSR started¹⁰³ the process of reconfiguring the Armed Forces to make them better able to meet the threats of the future, and bringing programmes and resources back into balance. The latter, by means of stating a number of strategic and security priorities, and directing some force structure changes. In addition, it suggested¹⁰⁴ undertaking a defence and security review at least every five years, in order to provide an additional mechanism to maintain balance between resources, commitments and future requirements as the strategic context develops.

By June of 2011, Lord Levene presented a Defence Reform Report, a fundamental review¹⁰⁵ of how defence was structured and managed, the first such review since the 1980s. The report found¹⁰⁶ a good deal of agreement within the department over the flaws in the way the MOD was structured and managed. Furthermore, the report set out that many of the issues¹⁰⁷ were not new, and that there was not perfect answer for all circumstances. Moreover, it

highlighted¹⁰⁸ that people, cultural and behavioural issues are as important, if not more, than structures for the success or failure of any model. All the recommendations¹⁰⁹ of the report were agreed and its implementation outline considered goals to achieve full implementation by April 2014.

Although the report did not address specifically capability planning activity, some of the strengths, problems and recommendations asserted are related to capability planning. Firstly, amongst key strengths of defence¹¹⁰, it was included the level of integration between MOD civilians and defence personnel across the organisation, and a very strong single service loyalties and high level of commitment to the organisation amongst civilian staff.

Secondly, some of the key problems recognised were¹¹¹:

- Focus on short term affordability at the expense of longer-term planning,
- Weaknesses in the management of information that support decision making,
- Absence of shared understanding of roles and responsibilities within Head Office,
- Lack of transparent, trusted and shared management information amongst delivery arms,
- Inefficiencies due to duplication and man-marking because of lack of trust across defence,
- Concerns about perceived flaws in the career management, promotion and appointing systems, including the perceptions that these incentivise single service officers in certain areas to put the interest of their service over defence as a whole,
- Concerns about a culture where people move too quickly from one post to another

Thirdly, some of the recommendations, aimed to develop a new model for departmental management, covered amongst other areas¹¹²:

- Making Head Office smaller and more strategic to set strategic direction and to make high level balance of investment,
- Focus Service Chiefs on running their services in a much clearer framework,
- Strengthen financial and performance management to ensure that future plans are affordable,
- Manage personnel more effectively with people staying in post longer, and more transparent and joint career management

- In respect to capability planning¹¹³, it suggested to move much of the DCDS capability function to the relevant Commands, where Service chiefs would pursue best balance between different capability areas

In summary, some of the problems identified in the Defence Reform Review, which was conducted whilst this research fieldwork was executed, had to do with issues regarding affordability, information management, career management, rotation, and lack of trust across defence.

Finally, it is apparent that the nature of the development of military capabilities requires decisions with implications over a long term period which can become irrelevant, cost overcommitted and even counter-productive. This is aggravated by increasing pace of technology development, its broad availability, and the changing nature of present and foreseeable threats. In this context, the UK has adopted capability management or TLCM as a way of thinking which allows a holistic approach in the management of capabilities, breaking down traditional stovepipes and going further than the notion of specific equipment, considering all the key factors influencing needs identification and the subsequent activities leading to the delivery of through-life military capability, providing for transparency and coherence. In this way, planning is intended to be more responsive to uncertainty, economic constraints and risk.

Even though TLCM provides a framework to facilitate the choice of a particular capability; to achieve the right behaviours, understanding the links, dependencies and trading-offs between desired capabilities, and balancing immediate operational needs and future capabilities; TLMC would require time and perseverance to show its potential benefits. The latter, combined with persistence in overcome potential pitfalls including required skills, behaviours and tools, simplifying processes, providing meaningful data for decisions and producing an equipment plan aligned with strategy, affordable and realistic.

1.5 Capability Management in the UK's Ministry of Defence

1.5.1 The nature of capability and management

The meanings of capability and management can have different standpoints. The Merriam-Webster's Dictionary¹¹⁴ defines capability as the quality or state of being capable (ability), a feature or faculty capable of development (potentiality) or, the facility or potential for an indicated use or deployment (the capability of a metal to be fused, nuclear capability). Further, management¹¹⁵ is defined as the act or art of managing: the conducting or supervising of something (as a business), judicious use of means to accomplish an end, and the collective body of those who manage or direct an enterprise.

Capability, in a military context, can be defined¹¹⁶ as the ability to generate a desired effect in a military operation, under a set of conditions, and to a specific standard. In addition, capability, in the US Department of Defence (DoD) context, is defined as the ability¹¹⁷ to achieve a desired effect under specified standards and conditions through a combination of means and ways across doctrine, organization, training, materiel, leadership and education, personnel,

and facilities (DOTMLPF) to perform a set of tasks to execute a specified course of action. As shown, varied perspectives can be taken to address a definition of capability. In any case, this points towards the consideration of capability in the UK's defence context. The definition of capability management, in the context of this section, will be expanded next.

1.5.2 Military Capability & Capability Management in the UK

Capability management is the approach of the UK's MOD to balance defence policy and resources through looking at affordability and achievability of military capabilities.

The UK's defence acquisition system¹¹⁸ is designed for the effective delivery of military capability, not just equipment. In the UK's MoD context, capability¹¹⁹ is the ability to generate an operational outcome or effect in the context of defence planning; capability is the enduring ability to generate a desired effect. Furthermore, military capability¹²⁰ (Figure 1-4) is defined as the ability to bring maritime, ground and air components into coherent joint forces under unified command in order to deliver appropriately motivated, manned, trained and equipped force packages at the required level of readiness and with the necessary support, sustainability and deployability to achieve the full range of agreed military tasks. Military capability is delivered¹²¹ by force elements – such as ships, aircraft, and army formations – combined into packages by joint force commanders, and tailored for particular operations or missions. To be effective, forces combine eight elements known as Defence Lines of Development (DLoDs); namely training, equipment, personnel, information, doctrine, organisation, infrastructure and logistics. Additionally, Capability Management¹²² is understood as the translation of requirements within defence policy into an approved programme that delivers the required capabilities though-life, across the DLoDS.

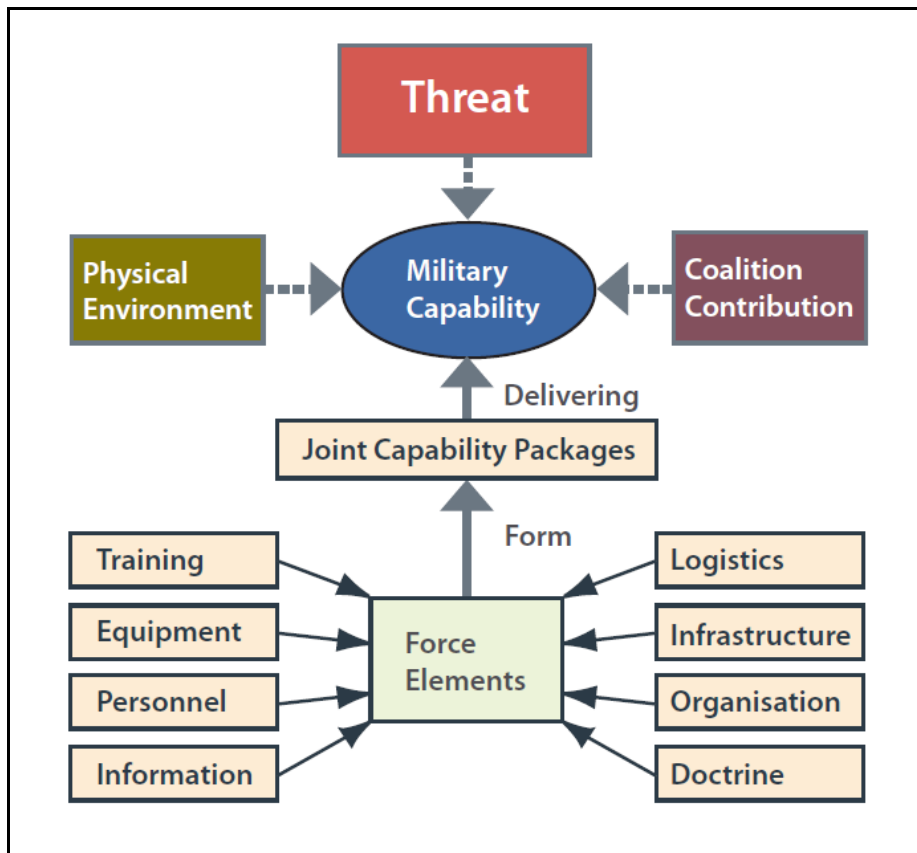
Arguably, a military capability is not only the product of joint capability packages on its own. Military capability¹²³ is an emergent property arising from the interactions of all the DLoDs rather than a simple superposition of them. Moreover, it is said to be only a meaningful concept¹²⁴ when it is specified about whose, to do what, and under what circumstances; that is to say that capability is context-dependent, but also that the context description contains information about the level at which capability is being considered. Then, it must be considered reflecting the impact of threat, physical environment and coalition contribution as well.

In order to bring coherence to the evolution of military capabilities DLoDs are employed. The purpose¹²⁵ of the DLoDs is to provide a pan-defence taxonomy to enable the coherent, through-life development and management of defence capability. In this regard, the desired capability can only be achieved¹²⁶ if activities within all eight DLoDs are at an appropriately matched level of readiness, or maturity; failure to manage across all eight DLoDs can lead to serious deficiencies. Moreover, the relationship¹²⁷ between DLoDs and military capabilities is many-to-many, i.e. the components of a particular DLoD

contributes to more than one military capability. Therefore, developments of military capabilities and DLoDs are intertwined.

In the defence context, the purpose¹²⁸ of capability management is to translate the requirements of defence policy, as described in defence planning assumptions, into an approved programme that delivers the capabilities required across the DLoDs (see Figure 1-4). In this context, capability management is seen as the business¹²⁹ of seeing where and how it all fits together and focusing on the capability outcome, being the heart of the business understanding inter-dependencies and the linkages.

Figure 1-4 Military Capability



Source: Defence Acquisition High Level Blueprint, 2008.

In this regard, capability planning¹³⁰ serves to identify the changes required across DLoDs to provide the right military capabilities, at the right time, within available resources. This task is inherently complex, since it is almost impossible¹³¹ to fully plan, predict and understand its long-term evolution. Where there is new or enhanced equipment requirement, capability planning provides the input to the acquisition cycle (referred to as CADMID Cycle, see Figure 1-6), taking into account¹³² industrial capacity, risks and opportunities, and achieving coherence across all DLoDs.

From the MOD's perspective, the key elements¹³³ of a capability management approach are:

- Examining a wider range of options that consider: new equipment, upgrade of in-service equipment or opportunities across all DLoDs.
- Taking a longer-term view of capability in the context of: defence policy, industrial strategy, research and development opportunities, commercial constraints and opportunities and financial pressures.

This long-term point of view requires¹³⁴ a fundamental shifting of mindset in military capability development, because of the difficulty of predict the future to any degree of certainty and consequently to manage cost-effectively what will be future legacy capability components. Moreover, capability is an abstract concept¹³⁵, and difficulties in conducting the balance of investment tradeoffs are inevitable when resources are constrained.

Capability management takes a long-term perspective, out to¹³⁶ twenty years and beyond in its analysis, in order to subsequently produce a Defence Programme, which is the costed version of the departmental plan. This is a rolling-planning programme, which covers a ten-year period and comprises:

- Equipment and Support Plan,
- Equipment Capability Change Plan and
- Non-Equipment Investment Plan

Therefore, capability management is the UK's MOD approach to balance aspirations stated as defence policy and resources provided through the defence budget. It is carried out initially through capability planning, to identify required changes. Hence, in the context of defence in the UK, the terms Capability Management and Through Life Capability Management (TLCM) are interchangeable.

1.5.3 The UK's MOD model to transit from defence policy to defence projects

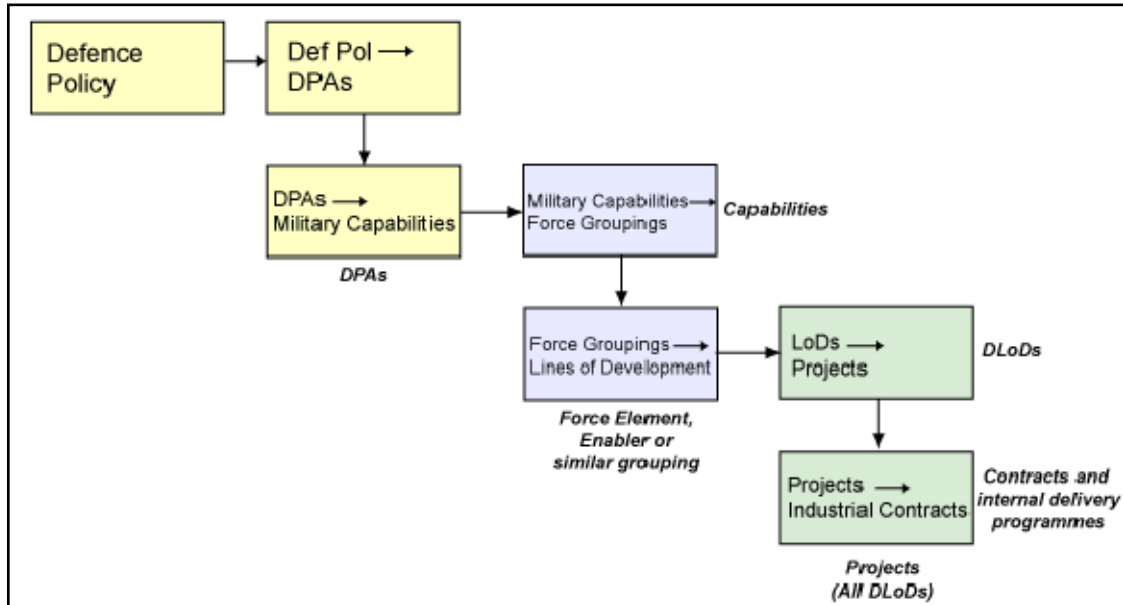
To transit from defence policy to the delivery of military capabilities, the UK's MOD utilises a capability management perspective which allows for the previously mentioned approach to be performed. The result is a Defence Programme that includes a set of approved and resourced defence projects. Subsequently, to address those defence projects an acquisition cycle is employed.

Within the capability management perspective the transit from Defence Policy to an approved and deliverable programme is considered as a series¹³⁷ of transitions (Figure 1-5):

- Defence Policy to Defence Planning Assumptions (DPAs),
- DPAs to Military Capabilities,
- Military Capabilities to Force Groupings,

- Force Groupings to Lines of Development,
- Lines of Development to Project, and
- Project to Contract

Figure 1-5 Transitions from Defence Policy to Contracts



Source: UK MOD's Acquisition Operating Framework, 2009

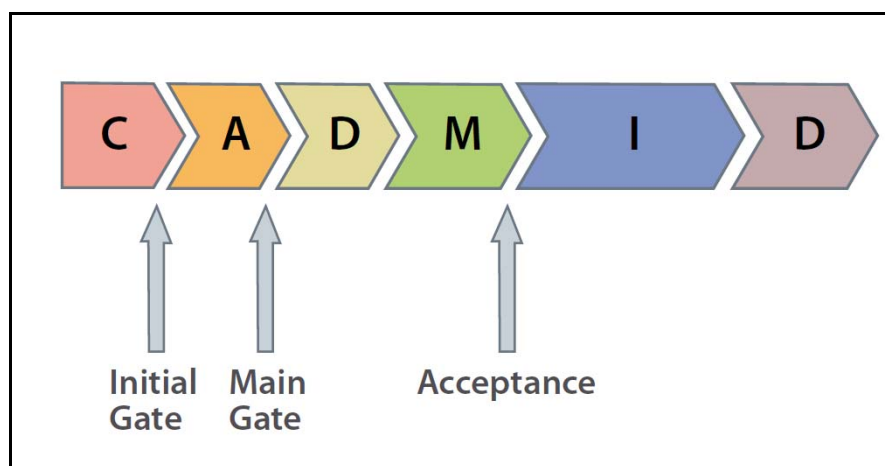
From the broadest perspective, defence policy is collated from foreign policy, the National Security Strategy, MOD considerations and other departments' implications into a suite of documents denominated Strategy for Defence that consist of: Defence Strategic Direction, Strategy and the Defence Plan. Basically, it links¹³⁸ policy to programmes, plans and resources and map a path from where the MOD is to an improved position over a defined timeframe. Subsequently, Defence Planning Assumptions¹³⁹ (DPAs) provide detailed guidance on what the armed forces should be capable of doing, specifically detailing 'What, Where, When, With Whom and for How Long'. Those DPAs are reflected into future capabilities development, a high level definition of capabilities that are required to achieve desired effects and campaign outcomes, in the Defence Strategic Guidance (DSG). Then, defined military capabilities are worked out to identify the optimum balance of Force Groupings i.e. platforms, force elements and force enablers. Further, Force Groupings are integrated across all DLoDs. Finally, decisions of specific projects being initiated can be made, and industrial contracts arranged.

The acquisition system endorses a through life perspective. In this regard, it considers¹⁴⁰ the entire life cycle of a military capability from initial conceptual work, through creation or change in force elements, to final disposal. In order to reduce the whole life cost of capabilities, it is required¹⁴¹ to understand the cost implications across all DLoDs, over very long periods of time. This work is undertaken through the capability planning process by the MOD Unified

Customer (MUC), which brings together key participants; in order to¹⁴² construct an acquisition programme (which forms part of the Defence Programme) pragmatic and deliverable, which meets the needs of the front line, and provides maximum capability for the available resources. Fundamental to the success¹⁴³ of the MUC is that participants should exercise shared ownership for TLCM decisions, whilst retaining clear responsibility for delivery of business activities within the acquisition process. This process is addressed subsequently in the next section.

The MOD employs an acquisition or project lifecycle which divides each project into phases with approval points controlling progression. This is called the CADMID cycle (Figure 1-6). The CADMID acronym stands for Concept, Assessment, Demonstrate, Manufacture, In-service and Disposal. The cycle begins¹⁴⁴ with Concept work to refine the requirement, leading to Initial Gate that authorises Assessment phase work to explore and de-risk potential solutions. For equipment¹⁴⁵, the Main Gate investment decision follows the Assessment phase and authorises work to Demonstrate the preferred solution or solutions, and to enter into Manufacture. The delivered solution is subsequently brought into service by the user through an acceptance process, led by the sponsor, who confirms that the original requirement has been met. Lastly, the relevant project team plans for Disposal at the end of the life of the solution. As the concept applies to equipment and also to provision of services, infrastructure and information systems, the M can stand for migration to new services or assets, and the D be replaced by a T for termination of the contract.

Figure 1-6 CADMID Cycle



Source: Defence Acquisition High Level Blueprint, 2008

The capability management perspective to identify capability gaps or needs and act consequently is structured into three sequential but overlapping parts: Capability Planning, Capability Delivery and Capability Generation.

1.5.4 Capability management parts

The management of capability management has evolved to reflect role changes and enlarged pan-acquisition view, introducing lately Capability Generation as

an integral part in addition to a previous subdivision. As a result, the approach to capability management considers three parts:

- Capability Planning,
- Capability Delivery and
- Capability Generation

The first part, the capability planning process, as described in the Capability Management Handbook¹⁴⁶ has as outcomes Capability Management Strategies (CMss) and Capability Management Plans (CMPs), those will be explained later as the fundamental vehicles to develop a particular capability area by¹⁴⁷ issuing guidance and recording the strategic conditions for success respectively. Afterwards, Capability Delivery¹⁴⁸ transforms the Capability Management Plans into the delivery of the required DLoDs for integration into Force Elements at Readiness by the Front Line Commands. Finally, Capability Generation¹⁴⁹ is the means by which Equipment Capability is made into useable Military Capability by the combined activity of all DLoDs. Central to the capability management approach there are three characteristics¹⁵⁰: teamwork across the MUC, feedback to manage risk and maintain relevance and strategic alignment to ensure that capabilities planned, delivered and generated are those required by Defence Strategy and defence priorities.

To this end, MOD and industry work closely together, utilising institutionally set processes and procedures. From the outset, the Defence Industrial Strategy (DIS)¹⁵¹ recognised the important contribution that UK's defence industry makes to delivering military capability and promotes a dynamic, sustainable and globally competitive defence manufacturing sector. The Strategy acknowledged that industry had to reshape itself, to improve productivity and to adjust to lower production levels, while at the same time retaining the specialist skills and systems engineering capabilities required to manage military capability on a through life basis. Also, the DIS recognised¹⁵² the need to plan and manage the defence business at the level of 'military capability' i.e. integrating the DLoDs to create military effect in operational scenarios. Moreover, the Defence Industrial Strategy¹⁵³ stated that it was seen a shift away from platform orientated programmes towards a capability-based approach. In any case, theoretical underpinning for capability management can be identified in strategic management theory which will now be considered.

1.6 A Strategic Management perspective

1.6.1 Strategic Management

Capability management and particularly capability planning, as the process to construct an acquisition programme, is underpinned by strategic management theory. Salient influential work is recognised in the 1960s.

Igor Ansoff in its seminal work in the 1960s about Corporate Strategy conceptualise strategy¹⁵⁴ as one of several sets of decision-making rules for

guidance of organisational behaviour. He describes strategy as¹⁵⁵ an elusive and somewhat abstract concept, stating that its formulation typically produces no immediate concrete productive action. Addressing the question about when to formulate a strategy, he points out that one condition¹⁵⁶ is when rapid and discontinuous changes occur in the environment of the firm. He states that when confronted with discontinuities¹⁵⁷, the firm is confronted with two very difficult problems:

- How to choose the right directions for further growth from among many and imperfectly perceived alternatives; and
- How to harness energies of a large number of people in the new chosen direction.

According to Ansoff, the answers to these questions are the essence of strategy formulation and implementation. In his words, strategy¹⁵⁸ becomes an essential and badly needed managerial tool. In his work, Ansoff suggests that¹⁵⁹ in turbulent environments with probable discontinuities, the alternative is a comprehensive and systematic strategic planning that challenges, re-examines and reformulates the strategic logic of the firm's future development. He argues that if a firm problem¹⁶⁰ cannot be solved internally, a decision to look beyond the present portfolio calls for a survey of opportunities outside the firm's present product-market scope. Furthermore, Ansoff states that the concept¹⁶¹ of strategic planning (late 50's) derived into strategic management (late 80's), accounting for three closely interdependent processes: strategic planning, management-capability planning and strategic change. In his perspective, strategic management consists of: formulating strategies, designing the firm's capability and, finally, managing implementation of strategies and capabilities.

In this regard, strategic management has long been viewed as the process that links an organisation with its environment and there has been an evolutionary focus for this. According to Leibold et al (2002), there seems to be a general consensus¹⁶² regarding the dominant focus of different periods in the evolution of strategic management, as presented in Table 1-1.

Table 1-1 The Evolution of Strategic Management

Period Issue	1950-1960s	1970s	1980s	1990s
Dominant Focus	<i>Planning:</i> Business and budgetary planning	<i>Balancing:</i> Optimizing corporate entities and functions	<i>Positioning:</i> Industry, market and firm "adapting" and unique fit	<i>Resources & Capabilities:</i> Resource-based view for competitive advantage

Source: Adapted from Strategic Management in the Knowledge Economy, 2002

Leibold et al (2002) states that the evolution of strategic management has been driven more by practical needs than by development of theory. They sustained that in the late 1980s and early 1990s there was a shifting focus to internal firm resources and capabilities, in a resource based view, as the basis to formulate

long term strategy which added, in the middle to late 1990s, the dimension of dynamic capabilities due to high velocity industry and market changes. The common idea found amongst some authors¹⁶³ is that in an environment of hyper-competition and dynamic capabilities the corporate strategy should center on managing strategic processes rather than on strategic positioning. Consequently, in dynamic and uncertain environments, an organisation would be expected to have an approach to strategic management focused on managing strategic processes and deeply influenced by its own practical needs.

Today, military capability developers must plan and manage strategically. Crosby asserts that for strategic management¹⁶⁴ to be effectively used, the manager must develop a strategic mentality that consists of four main elements. Firstly, the strategic approach is oriented towards the future; secondly, it has an external emphasis; thirdly, it concentrates on assuring a good fit between the environment and the organisation and attempts to anticipate what will be required to assure continued fit; and finally, the strategic approach is a process.

Arguably, capability management is one application of strategic management with a strategic mentality. The four main elements of effective strategic management mentioned can be seen in capability management. Military capability gaps or needs are identified, taking a long-term view (out to twenty years and beyond), based on agreed military tasks the forces are given, reflecting its orientation to the future. Also, a military capability must be thoroughly considered into its context to be meaningful, accounting for its external emphasis. Besides, capability management is distilled from a broad perspective, with different mechanisms to feed in information, taking into account impact of current and future threats, physical environment and potential coalition contributions; and considering the entire life cycle of a military capability. Subsequently, once the required capability inventory is defined, the most cost effective and efficient options to satisfy the requirements are sought. In this regard, one of the central characteristics of the capability management approach is being to ensure that capabilities planned, delivered and generated are those required. Finally, capability management is a continuous process made of three parts as vehicles to orderly develop capability areas, with significant monitoring and review mechanisms, moving from defence policy through the generation of military capabilities. Thus, arguably the UK's MOD capability management approach is consistent with the application of strategic management with a strategic mentality.

1.6.2 Capability based planning in defence

The first part of the development of a military capability in the UK's MOD model covers capability planning which is only part of capability management. Capability planning translates defence policy into an affordable defence programme. To this end, a capability based planning approach is taken.

The beginning of the 21st century brought shocking terrorist attacks with the re-emergence of unpredictable threats. Consequently, there were different initiatives worldwide in order to deal with these uncertainties and those which were underway received more emphasis. One of those initiatives is The

Technical Cooperation Program (TTCP)¹⁶⁵ between Australia, Canada, New Zealand, United Kingdom and United States which encompasses cooperation within science and technology for conventional national defence. Every member country of the TTCP currently intends¹⁶⁶ to use the concept of capability as the basis for the long-term planning of their future defence force structures. Although, due to differences¹⁶⁷ in organisational, planning and legislative processes, each nation is implementing its own variant of Capability Based Planning (CBP), those variants have strong similarities and significant differences as well. Nonetheless, they agree on how CBP should be conducted.

Even though there is no explicit definition of CBP as such, in the published UK's MOD documentation to the best knowledge of the author, some relevant definitions can be found. According to the NATO, this method¹⁶⁸ involves a functional analysis of expected future operations. The future operations themselves do not enter the performance evaluations. The outcome of such planning is not concrete weapons systems and manning levels, but a description of the tasks force structure units should be able to perform expressed in capability terms. Once the capability inventory is defined, the most cost-effective and efficient physical force unit options to implement these capabilities are derived. Another agreed definition, stated by the Rand Corporation, establish as CBP,¹⁶⁹ planning under uncertainty, to provide capabilities suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework. Finally, according to the US DoD, CBP is¹⁷⁰ a planning methodology that identifies and provides capabilities that the joint warfighter and supporting defence entities need, to address a range of challenges.

Those definitions are consistent with the TTCP's definition¹⁷¹: a systematic approach to force development that aims to advice on the most appropriate force options to meet government priorities. The force options developed should meet strategic objectives, minimize cost and risk and comply with other constraints.

Capability based planning represents¹⁷² an attempt to break down traditional stovepipes and provide for transparency and coherence. In this context, it provides a more rational basis for making decisions on future acquisitions, and makes planning more responsive to uncertainty, economic constraints and risk. It is seen as a shift to a model¹⁷³ which focuses more on how adversaries fight, rather than specifically whom the adversary might be or where a war might occur, in order to defeat adversaries who will rely on surprise, deception and asymmetric warfare to achieve their objectives. It is considered a evolution from the threat-based planning methodology commonly employed during the Cold War, which involved identifying potential adversaries and evaluating their capabilities as the initial input. A methodical¹⁷⁴ capabilities-based approach would enable planners to identify and field broad capabilities that counter adversary methods.

Thinking in terms of capability highlights two inherent challenges: replacement thinking and neglecting in investment key enablers of capability. They are pointed out as dangers, when considering the reorganisation of the Capability

Sponsor along single-service lines. First, replacement thinking¹⁷⁵, in which the services look for better versions of existing equipment, rather than radical possibilities opened up by new technology which could disrupt existing organisations and cultures. Second, to neglect in investment¹⁷⁶ by the key enablers of capability: command, control, communications, computers, information/intelligence, surveillance, targeting acquisition and reconnaissance (C4ISTAR) and logistics, which are essentially joint in nature.

In addition to a defence planning process complicated by its own nature, which encompasses the influence of governments, political views of national defence, national perceptions and defence's different internal organisational cultures; capability based planning struggles with the complexity of working under uncertainty. Arguably, capability-based planning provides a comprehensive framework to address this complexity.

1.6.3 The Capability Planning Process

Basically, government departments fulfil three broad functions: develop policy, establish a resourced plan to develop policy and deliver public services in accordance with agreed policy. In the case of the UK's MOD, the Defence Programme contains the essential elements of the second function to provide military capabilities this is, to discharge the third function. In the MOD, conceptual consistency¹⁷⁷ and coherence is delivered through a capability-based planning process.

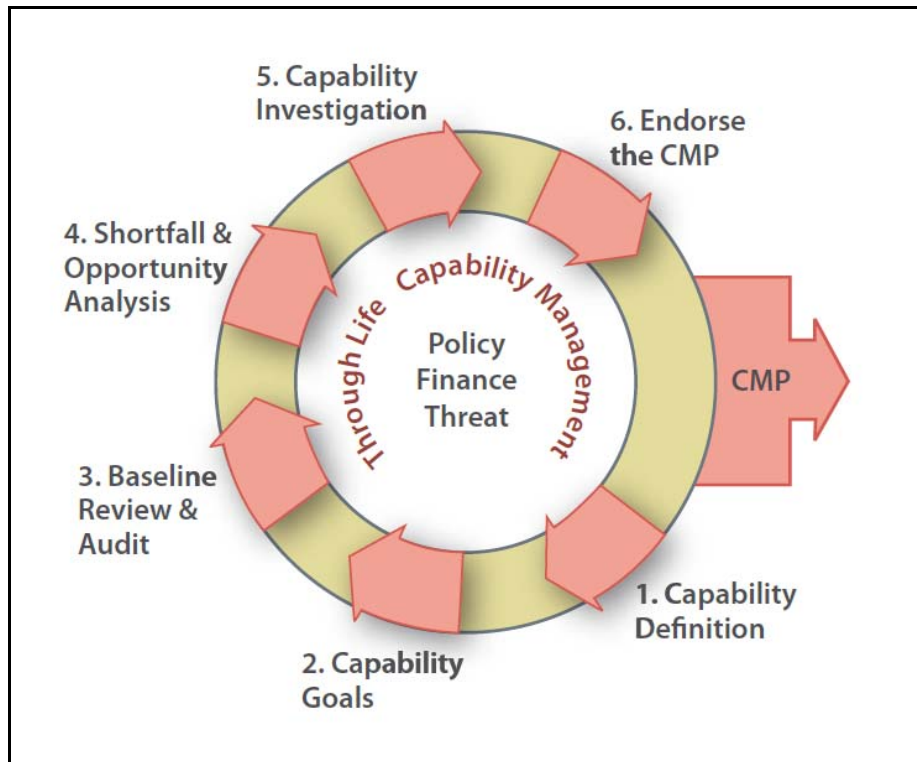
As it was stated previously, the first part of capability management is capability planning. Also, it was pointed out that the UK's MOD employs a capability-based approach which is applied in a unique manner, but with conceptual underpinning in strategic management theory. Moreover, this capability planning process expectedly should be influenced by its own practical needs.

The military capability development timeline¹⁷⁸ can begin years, or even decades, before the actual utilisation of the military capability of concern; future requirements are envisaged and the military capability is designed via a conceptual synthesis of all the DLoDs. Conceptually, initially capability planning defines capabilities that will be needed in the long term, and then compares it with existing and planned capabilities. Finally, options are identified and prioritised into a set of CMPs. This process is directed by the Joint Capabilities Board (JCB), which cascade strategic guidance as capability priorities. The JCB reports to the Defence Board¹⁷⁹ as the decision taking body whose principal function is to make the high level decisions necessary to ensure that Defence delivers its final outputs.

The shared ownership of capability decisions is achieved through a six stage Capability Planning Process (see Figure 1-7). The capability planning process, as described originally in the Capability Management Handbook¹⁸⁰ encompasses six stages, namely: capability definition, capability goals, baseline review and audit, risk and opportunity analysis, capability investigation and capability delivery. This last stage changed subsequently to endorse the CMP. The outputs from the process are Capability Management Strategies (CMSs)

and CMPs. Also, in the departmental planning year process Heads of Capabilities (HoCs, see Figure 1-8) can explore capability management measures (CMMs) across DLoDs, introducing enhancement CMMs, provided they are offset by saving CMMs, this measures need to be discussed, and agreed, in the relevant planning groups.

Figure 1-7 Capability Planning Process – ‘The Waterfall Model’

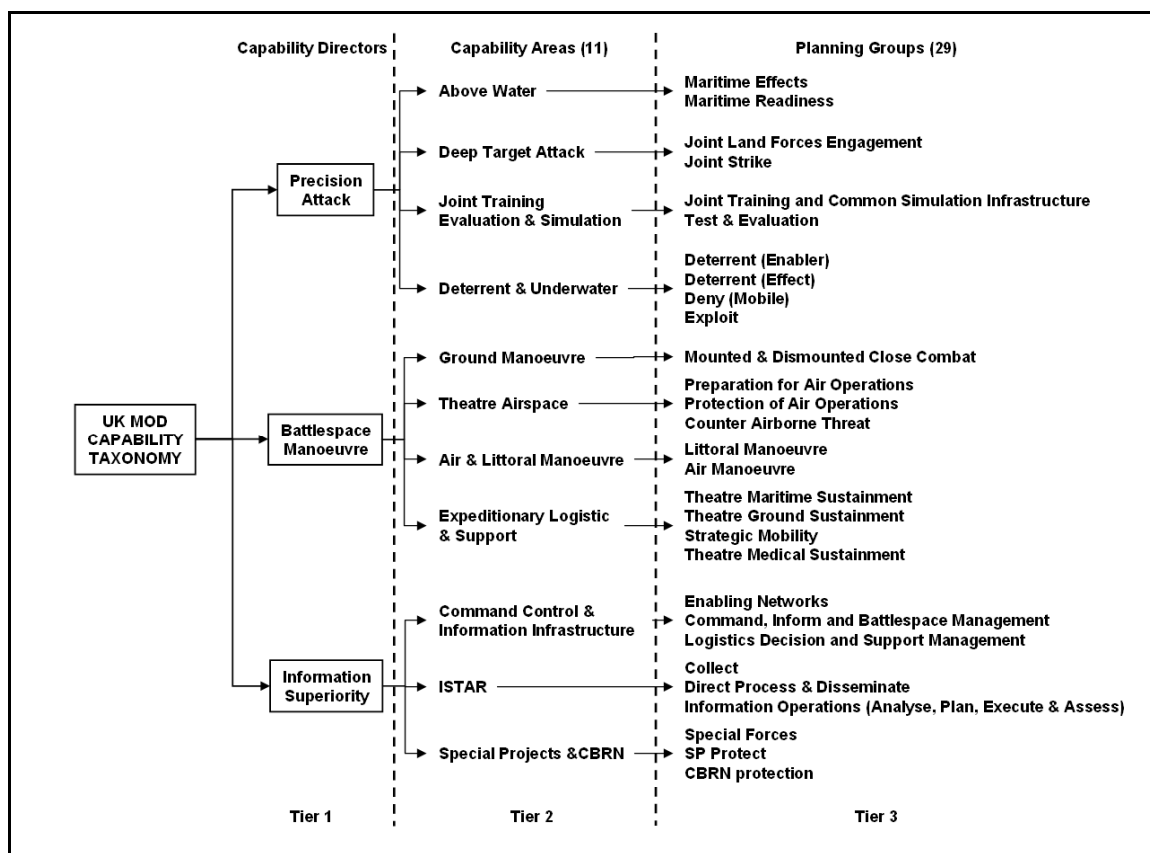


Source: Defence Acquisition High Level Blueprint, 2008.

The six stages of the capability planning process follow a sequential order in what is known as the waterfall model (Figure 1-7). Stages one to five are focused on optimising the capability delivered within available resources and stage six covers the prioritisation and resource allocation. The first stage develops a capability definition of a capability area for each Capability Management Group (CMG) and Capability Planning Group (CPG), in a construct that is presented further. Subsequently, in the second stage, one or more statements of Capability Goals are derived through the decomposition of a capability area in military effects. These statements are specific, measurable and solution independent. In the third stage, a baseline assessment across all DLoDs is performed and presented through five perspectives; namely: capability, commercial, financial, industrial and research. Then, in the fourth stage, shortfalls and opportunities analysis arise from the comparison of the capability goals and the perspectives structured in the previous stage. The fifth stage considers Capability Investigations (CIs) into shortfalls, areas of overprovision or opportunities. Finally, the last stage covers prioritisation and resource allocation that allows the production of a CMP.

To this end, a Defence Capability framework or partition scheme to support analysis is employed. Basically, the framework consists of a taxonomy (Figure 1-8) made, in a first tier, of three broad partitions which are headed by Capability Directors; namely Precision Attack, Battlespace Manoeuvre and Information Superiority. These partitions, in turn, cover three to five capability areas each, this is the second tier; every capability area is under responsibility of a CMG, chaired by a Head of Capability. These areas, subsequently, host CPGs which are responsible for subdivisions of capability areas in planning groups, the third tier of the taxonomy. This accounts for¹⁸¹ a total of three broad partitions subdivided into eleven areas including twenty nine CPGs (as on August 2009).

Figure 1-8 Capabilities Taxonomy



Source: DE&S Graphics and Photography BTH02768, 2009

In capability planning's governance terms, there are three levels: the JCB, HoCs supported by CMGs and the CPGs. The CPGs are hosted by CMGs which report through the HoCs to the JCB.

The JCB is chaired¹⁸² by Deputy Chief of Defence Staff (Capability) (DCDS (Cap)) and its members are the Directors of Capability, the Director Equipment Resources, and the Director Science and Technology, supported by key stakeholders through different meeting types.

The JCB delivers the governance of Capability Sponsor activities; and their functions¹⁸³ are:

- Produces a Capability Plan to manage the high-level delivery of capability.
- Provides direction and guidance to HoCs on the formulation of the Capability Plan drawn from strategic guidance.
- Identifies links and dependencies between Capability Areas and makes cross-Capability Area Balance of Investment (BoI) decisions.
- Allocates the resources required (including manpower, skills and finance) to make sure the organisation can deliver its key objectives.
- Manages Capability Sponsor performance, particularly the delivery of key objectives and targets.
- Provides the Capability Sponsor's corporate focus for communication with external stakeholders including, specifically, DE&S, Industry and the User and Science, Innovation and Technology (SIT) communities.

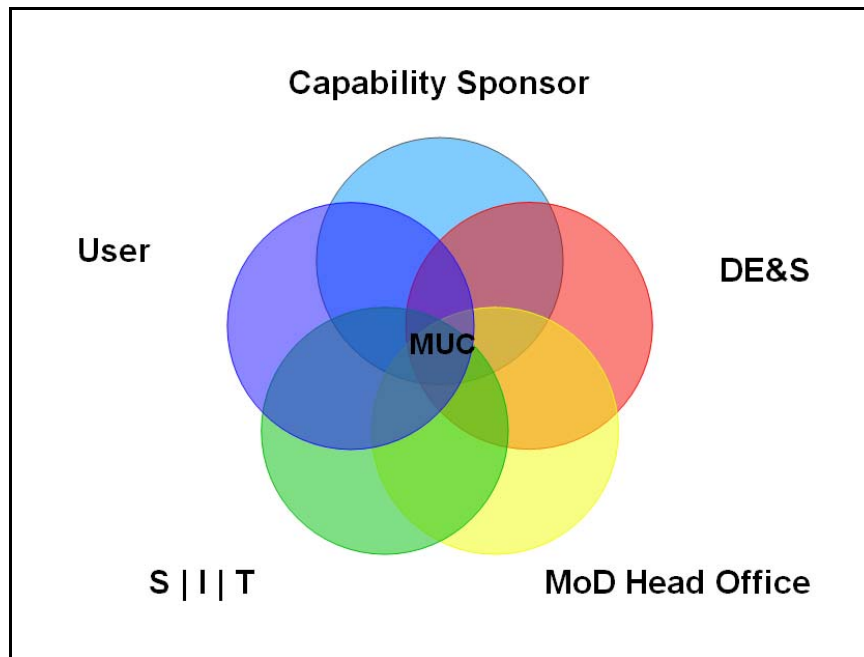
The JCB employs different meeting types, they pursue different objectives, and their attendees are different with some adjoining in an ad-hoc basis in coherence with the meeting type. Different means are employed to communicate decisions and to ensure that staff members are aware of the JCB's strategic direction. With this end, the Capability Sponsor Portal¹⁸⁴ is the principal method for staff to gain visibility of key documents, instructions or briefing material.

Capability planning relies on effective working of CPGs and CMGs. Basically, each capability area (Tier two of Capabilities Taxonomy) has a CMG which host between one and four CMGs (Tier three of Capabilities Taxonomy). Those groups work using different ways of working to bring together different specialised perspectives and skills exploiting information technologies.

The HoC¹⁸⁵ leads capability planning and develops capability management strategies and plans that set the requirement and conditions for the delivery of capability through life in accordance with the Defence Strategy. The HoC chairs a CMG that is attended by empowered members of the MUC which bring together five key participants (Figure 1-9): HoC, user representative, centre representative (MOD Head Office), SIT representative and DE&S representative. The CMG is supported at a working level by CPGs.

As it was mentioned, the MUC brings together five key participants. Their roles and responsibilities are summarised from now on. This synopsis complement the notion of the subdivisions of capability planning, the stages; its outcomes, CMSs and CMPs; the capability taxonomy; the main responsibilities of the Capability Directors; and the role of the JCB; allowing to build up a broad conceptualisation of the capability planning process.

Figure 1-9 MOD Unified Customer Concept



Source: Author

The Defence Support Group (DSG) directs HoCs¹⁸⁶ and their policy guidelines are set by the Policy and Programmes Steering Group (PPSG). The HoC is specifically responsible¹⁸⁷ for:

- Leading the capability planning process for a particular capability area, setting the overall requirement and conditions – vision, strategy, plans and resources – for all aspects that contribute to his/her capability area.
- Identifying high-level capability goals or requirements (based on DSG), assessing any gap or surplus against existing capabilities and developing pan-DLoDs options to meet those requirements.
- Identifying through the departmental planning process, the resources to meet these requirements or presenting the risk and impact, against DSG, of requirements that remain unfunded or against which savings are taken.
- Identifying and managing dependencies with other capability areas and coherence with Urgent Operational Requirements (UORs). Risks and issues arising outside of his control are passed to the JCB for resolution or escalation.

A relevant input for the work of the HoC is the level of funding that could be expected for the options that, eventually, will be developed. This level of funding is a starting point for the definition of the scope of the activities to be carried out. Within Head Office¹⁸⁸, it is the role of the Central Finance and Resource Planning Staff under the Finance Director to¹⁸⁹:

- Manage the overall Defence Corporate Programme and Planning process, balancing resources between TLB Plans and the Capability Sponsor to meet defence priorities.
- Allocate resource control totals to TLBs and the Capability Sponsor.
- Manage in-year expenditure at Departmental level.
- Sets Force Structures, Defence Planning Assumptions and Readiness Levels

The User role¹⁹⁰ ranges from influencing policy, force-development and future equipment capability, to the generation of Force Elements @ Readiness (FE@R) to deliver effect. In the context of capability planning the key roles and responsibilities¹⁹¹ of the User are:

- Informs and supports the planning of future capability.
- As a member of the CPG, provide advice on trade offs and options, and evidence to support investment decision points.

Advice to CMGs/CPGs regarding research and technology is provided by SIT. SIT supplies¹⁹² Science and Technology officers, integrated within the Capability Sponsor, on CMG/CPGs. In particular, the SIT representative¹⁹³:

- Works with Defence Science and Technology Laboratories (DSTL) Capability Advisors to provide scientific advice and underpinning knowledge and data in a timely manner
- Assists CPGs to identify current or future capability needs or issues, which can be addressed or informed by focused research
- Articulates Research Goals and, through the relevant SIT Research Output, translates them into one or more Research Requirements which define the aim, desired outcome and milestones of the research activity
- Assists CPGs in prioritising Research Requirements
- Oversees appropriate research activities
- Generates research and development plans which are coherent with capability plans and decision points
- Identifies relationships with industry to develop key technologies jointly

DE&S is the MOD's single organisation¹⁹⁴ responsible for providing equipment, support and logistics capability to the armed forces and supporting it through-life. In the context of capability planning the key roles and responsibilities¹⁹⁵ of DE&S are:

- Delivering a coherent through life output within and across project portfolios (in consultation with the User and Sponsor) to meet funded future capability requirements.

- Provide a key input to the TTCPG process by:
 - Informing on delivery
 - Advising on trade-off opportunities
 - Advising on industrial capacity
 - Providing advice on commercial issues
 - Advising on opportunities for technology insertion

Finally, two other meaningful inputs are those from the Development Concepts and Doctrine Centre (DCDC) and industry. The DCDC and industry provide¹⁹⁶ support to the capability planning at different times throughout the process. The former initially sponsor¹⁹⁷ the concepts to capability process. In addition, the latter, where industry can provide an indication of¹⁹⁸:

Technical maturity

- Broad cost and programme data
- Industrial threats and opportunities arising from capacity, technology or other issues
- Export and international considerations

After considering the main roles and responsibilities of key players in capability planning, it is meaningful to look at their outputs, which are strategies and plans, from CMGs and CPGs respectively.

The output of the CMG is a CMS which provides¹⁹⁹ the long term view of a Director's capability area, identifies the capability requirements to be delivered by each CPG, and sets the priorities for resolving significant capability shortfalls, and exploiting opportunities. On the other hand, in the case of the CPG, the output being a CMP which allows a CPG to manage²⁰⁰ capability shortfalls, requirements, programme and risks associated with one or more elements of the capability Taxonomy.

The CMP is underpinned by a number of studies, analysis, research and experimentation which include consideration, from the outset of commercial issues and affordability. The CMPs will be reviewed²⁰¹ by Directors in the pertinent CMG, examining trades and BoI across the capability area, considering the constraints and requirements of other capability areas. Finally²⁰², the JCB considers trades across areas to optimise the Capability Programme as a whole, within resource and other constraints. At any of those levels, the degree of complexity can not be overemphasised, particularly when it is borne in mind that the JCB and multiple CPGs and CMGs potentially make tradeoffs along all the capabilities taxonomy.

The output²⁰³ of the capability planning process will be an option for consideration in the Planning Round i.e. the biannual departmental financial planning process, where an equipment related solution is approved; a new

project will be initiated. Options are identified and prioritised into a set of CMPs. Those CMPs (each capability area) are incorporated into a ten-year Equipment & Support Plan, accounting for capital investment and its support consequences, which in turn is refunded in a Capability Change Plan (also known as capability sponsor plan or Capability Change Programme). In addition, the MUC²⁰⁴ through CPGs ensures coherence between the single Service Management Plans and the capability change programme established in the capability planning process.

Thus, the departmental function of establishing a resourced plan to develop policy is discharged through the capability planning process, identifying capability gaps or needs, in a coherent and consistent manner employing a Joint Capabilities Board – Capability Management Groups – Capability Planning Groups construct. Further, some working arrangements and tools are common at the working level of capability planning.

1.7 New approach, new challenges: a gap in knowledge

The cross-functional work amongst MOD organisations, to plan future military capabilities appears as an emerging trend, most likely to increase over time. Moreover, it is suggested that capability planning relies on effective working of CPGs. Thus, the MOD needs to optimise the performance of these cross-functional planning groups.

The cross-functional approach taken by the UK's MOD to undertake capability planning activity poses challenges for the organisations integrated in the MUC. In this regard, understanding the fundamental importance of interpersonal trust in the CPGs is crucial for the success of the integration of individual's skills and competences.

A number of elements related to interpersonal trust can be found through different documents and, particularly, in the Defence Reform Report. This latter report, as discussed in the subsection 1.4.2, emphasises the importance of people, cultural and behavioural issues as probably even more important than structures for the success of any model. In addition, the Defence Reform Report points out some key strengths and problems in defence, together with some proposals for a new departmental management model.

The establishment of integrated work across different MOD organisations has been clearly identified as a fundamental philosophy underpinning the development of future military capabilities. Understanding that way of work that integrates different specialised perspectives and skills, exploiting information technologies, working in defence is an original approach to planning future capabilities in the context of capability management in the UK's MOD. Considering that to the best knowledge of the author, there is no work available focused on study interpersonal trust amongst members of these cross-functional CPGs, it constitutes a gap in knowledge that this research will address.

1.8 Topic, Aim and Research Questions

In this research, the author utilises literature on virtual teams and interpersonal trust, to develop a research framework for the study of interpersonal trust in the context of virtual work in planning military capabilities. Flowing from an extensive review and amalgamation of conceptualisations from the literature, its interpretation by the researcher, and the interaction with sources relevant to the topic, from the academia and practitioners fields, interpersonal trust, and in particular its determinants, in CPGs was selected as a relevant element for successful integrated cross-functional work.

Consequently, the following topic, aim and research questions were developed:

Topic

Critical analysis of interpersonal trust determinants in VTs, working in capability planning in the identification of capability gaps or needs, to provide required future military capability.

Aim

To develop a critical analysis of interpersonal trust determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability.

Research questions

In order to satisfy the requirements of this conceptualisation, and based on the elements discussed, the following questions need to be answered:

Research Question 1: **What are the pertinent determinants of interpersonal trust in the CPG?**

Research Question 2: **What, if any, are the issues surrounding those determinants within the CPG?**

Research Question 3: **What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members?**

The interpersonal trust determinants and the risks and issues regarding interpersonal trust in the CPGs were investigated utilising a research methodology extensively discussed in the Chapter 3 'Research methodology'. It included addressing influential elements deemed necessary to understand and contextualise data about interpersonal trust in CPGs.

Taking into account that the interpersonal relationship under study, i.e. amongst different MOD organisations representatives working in virtual teams, planning future military capabilities is novel, the nature of the research is eminently exploratory. Thus, the review and interpretation of the literature available allowed the researcher to identify a number of elements that allowed the researcher to understand the phenomenon under consideration, under the particular focus undertaken in this research, as stated in the research's Aim.

1.9 Significance of the Research

It is expected that this type of intraorganisational work will continue to develop and increase and that the virtual modality of work will be an extended practice. In the words of the Vice Admiral Paul Lambert, Deputy Chief of Defence Staff (Capability)²⁰⁵:

‘As the use of virtual teams is considered most likely to increase over time in MOD organisations, the findings from the research should be useful to all personnel involved in capability planning, and other cross-functional activities. Furthermore, it will inform the design of organisational processes and systems as we take forward capability management in the post-Defence Reform era.’

Consequently, increasing the understanding about this fundamental element to effective/successful performance, in respect to planning future capabilities, should be very noteworthy for the UK’s MOD. Overall, this has considerable implications for the design of strategies, approaches and processes related to capability planning, capability management, and other cross-functional activities. In this regard, the production of original knowledge about this modality of work might also originate new areas for research from different perspectives.

In addition to the relevance to the UK’s MOD, the relevance to other military organisations should not be underestimated. The potential for increasing effectiveness and efficiency in capability planning as well as in other cross-functional activities might become highly beneficial for any defence organisation.

1.10 Outline of the Research Design

The paradigm adopted in this research is fundamentally phenomenological, and as such based on the perceptions of individuals. The research approach is qualitative, and exploratory in nature. Firstly, the exploratory research effort undertaken was informed by case study methodology in a multiple-case approach, developed through a set of interviews to the members of some selected CPGs. Subsequently, a survey questionnaire was conducted.

The fieldwork was organised in two dependent phases. In Phase I, evidence was collected through a programme of semi-structured interviews across the organisations integrated in the MUC. In Phase II, a comprehensive questionnaire developed, based on the findings from Phase I, addressed to the whole population of CPG members, was conducted. In this way, both phases compose an integrated design that underpins the answer to the research questions.

1.11 Organisation of the thesis

This Chapter 1 serves to contextualise and justify the topic to be researched, summarising an outline of the research and the organisation of the chapters of the thesis.

Following this introductory chapter, Chapter 2 addresses a critical review of the pertinent literature. The literature review provides a critical evaluation of the literature pertinent to the topic, conditioning the design of the research project. In addition, it serves to improve the researcher knowledge, providing him with an understanding of the subject area, and underpinning the justification of the research topic and the research approach undertaken.

In Chapter 3, the framework for research to be employed is formalised and the research methodology to be employed discussed. It entails the research paradigm, the selected research methods, the sources of evidence and, the ethical considerations that are of significance for this research. Finally, the limitations of the research are identified.

Chapter 4 presents the findings of the already mentioned Phase I and II, respectively. The results of Phase I are integrated in a cross-case analysis under the perspective of the research problem and the research questions, leading to the development of the second phase of the fieldwork.

Chapter 5, integrates the findings of the fieldwork in a final analysis and discussion seeking to answer the research questions.

Chapter 6 presents the pertinent conclusions, discussing the significance of the findings and identifying areas for further research.

1.12 Summary of the chapter

This chapter contextualised and justified the topic to be researched, summarising an outline of the research and the organisation of the thesis. In doing so, it provided the conceptualisation under which the development of future military capabilities is planned, with focus on the cross-functional work of different organisations in defence.

The SDR provided an initial point to consider and analyse major efforts to improve the provision of military capability in the UK. Further, the analysis focuses on through life capability management, as the cornerstone to improvements in the provision of military capability. Subsequently, the emphasis moves on to capability management, as the approach to balance policy and aspirations in an affordable and achievable manner. Within that, the conceptual framework underpinning the management of capabilities was discussed. Then, the analysis covers a broad theoretical underpinning for capability planning activity from a strategic management perspective. In that context, the UK's capability planning process is emphasised as the vehicle to deliver a consistent and coherent resourced plan to develop military capabilities.

Finally, a gap in knowledge is identified in the general context of the cross-functional integration of different defence organisations. The contribution to knowledge of the research, its significance, and the aim and objectives of the thesis were stated. In brief, this chapter has introduced the background and purpose of the study; the significance of the topic. As such, it contextualises and justifies the topic to be researched, summarising an outline of the research and the organisation of the chapters of the thesis.

Subsequently, Chapter 2 will present a critical review of the literature pertinent to the topic, in order to underpin establishing a conceptual framework for the research and to demonstrate the existence of a gap in knowledge that this research will address.

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- ²⁰³ UK Ministry of Defence, 2007. Defence Acquisition Change Programme. High Level Design (Blueprint) version 5.0. Defence Acquisition Change Programme. January 2007.
- ²⁰⁴ Capability Delivery Guidance. Version 3.7. 19 March 2008.
- ²⁰⁵ UK Ministry of Defence. Vice Admiral Paul Lambert CB. Deputy Chief of Defence Staff (Capability). Introductory Letter to CPGs. 15 November 2011.

2 Literature Review

'The plan is nothing; Planning is everything'

Dwight Eisenhower

2.1 Introduction: rationale and structure of the chapter

2.1.1 Introduction

Previously, Chapter 1 introduced the setting, presented the research problem and discussed its consequent relevance.

This chapter presents a critical review of the literature pertinent to the topic. Subsequently, a conceptual framework for the research is established. A literature review²⁰⁶ is a critical evaluation of the existing body of knowledge of a topic, which guides the research and demonstrates that relevant literature has been located and analysed. A review²⁰⁷ of prior, relevant literature is an essential feature of any academic project. An effective review creates a firm foundation for advancing knowledge. It identifies areas where a plethora of research exists, and uncovers areas where research is needed.

Accordingly, this chapter considers suitable pieces of literature, identifying specific gaps in the topic under consideration, which underpins the assertion of the research problem; and, subsequently structures a conceptual framework for research derived from the consideration of the literature and its interpretation. In this way, a specific approach to the topic will be addressed, in coherence with the aim of this research:

To develop a critical analysis of interpersonal trust determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability.

The primacy of through-life considerations in acquisition at departmental level has become a matter of defence policy. The publication of the Defence Industrial Strategy (2005) introduced Through Life Capability Management (TLCM) as a fundamental view of the management of military capability. Arguably, this perspective would be another step ahead in the level of sophistication of defence management. In this context, through the integration of different organisational areas across defence in the capability planning process, it is expected to consider all the key factors in needs identification and the activities leading to the delivery of through-life military capability in a more responsive way to uncertainty, economic constraints and risk.

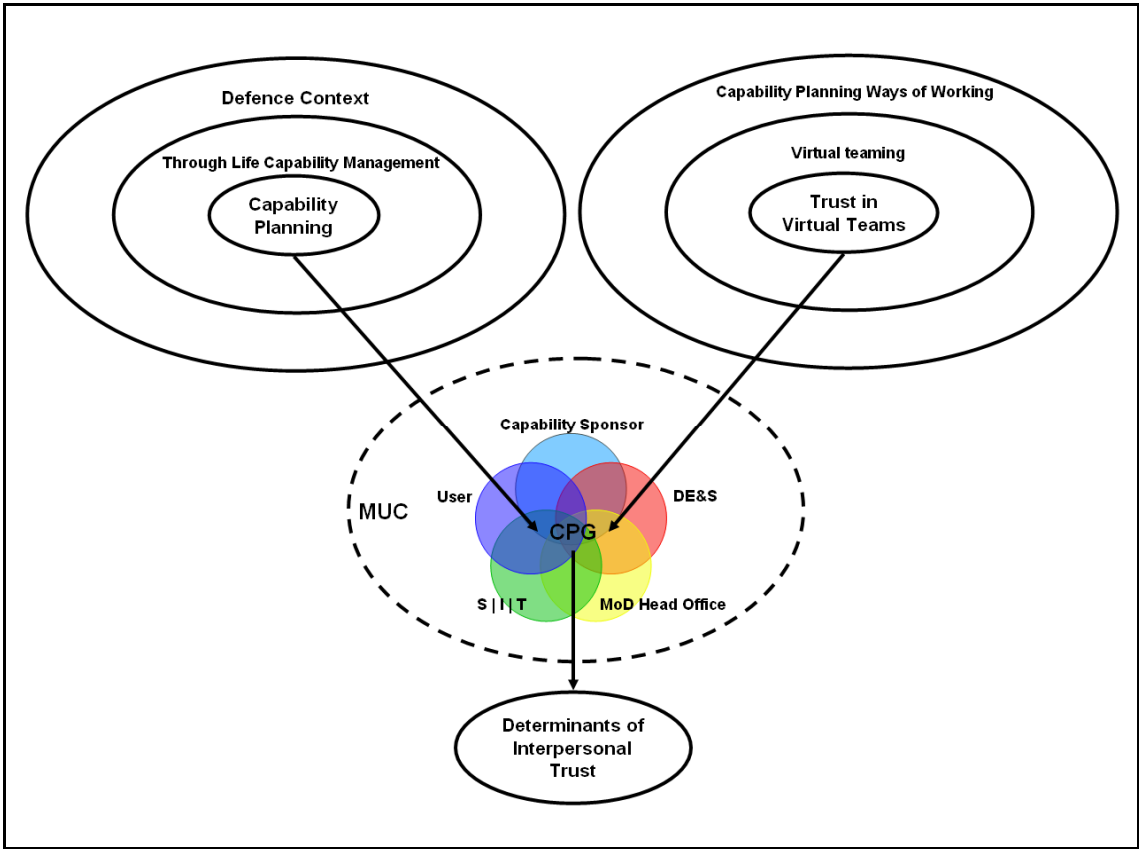
The conceptual framework of the process which aims to balance defence policy aspirations and available resources is the capability planning process. The cornerstone of this process is the cross-functional integration of skills and capabilities across defence in the concept known as the MOD Unified Customer (MUC). This integration is realised through a construct where the Capability Planning Groups (CPGs) are the working level in those activities. But the modality of work adopted by CPGs, the employment of virtual teams (VTs),

together with a number of benefits brings considerable challenges. In this particular context, relevant literature on the topic strongly points out to interpersonal trust as a relevant, if not the most significant, factor in the pursuit of the required outcomes.

Consequently, the study concentrates on the **determinants of interpersonal trust** in the context of capability planning performed by key participants from different MOD organisational areas under the concept of the MUC. As such, the research focuses on the identification of interpersonal trust determinants, within the scope of the work of the CPGs.

The topic is, then, related to the organisational skills and behaviours required for the development of the essential element of interpersonal trust in the military capability planning arena. The defence context is set by the TLCM view and in particular the capability planning process. In this context, virtual teaming as a way of working in capability planning is the organisational activity where interpersonal trust is developed and fostered. This is shown diagrammatically in Figure 2-1. That is, in particular between the members of the MUC who come from different organisational settings, in order to contribute to the identification of gaps or needs, its comparison with existing and planned capabilities; and finally, to the identification and prioritisation of options into a set of Capability Management Plans (CMPs).

Figure 2-1 Contextual elements of the research topic



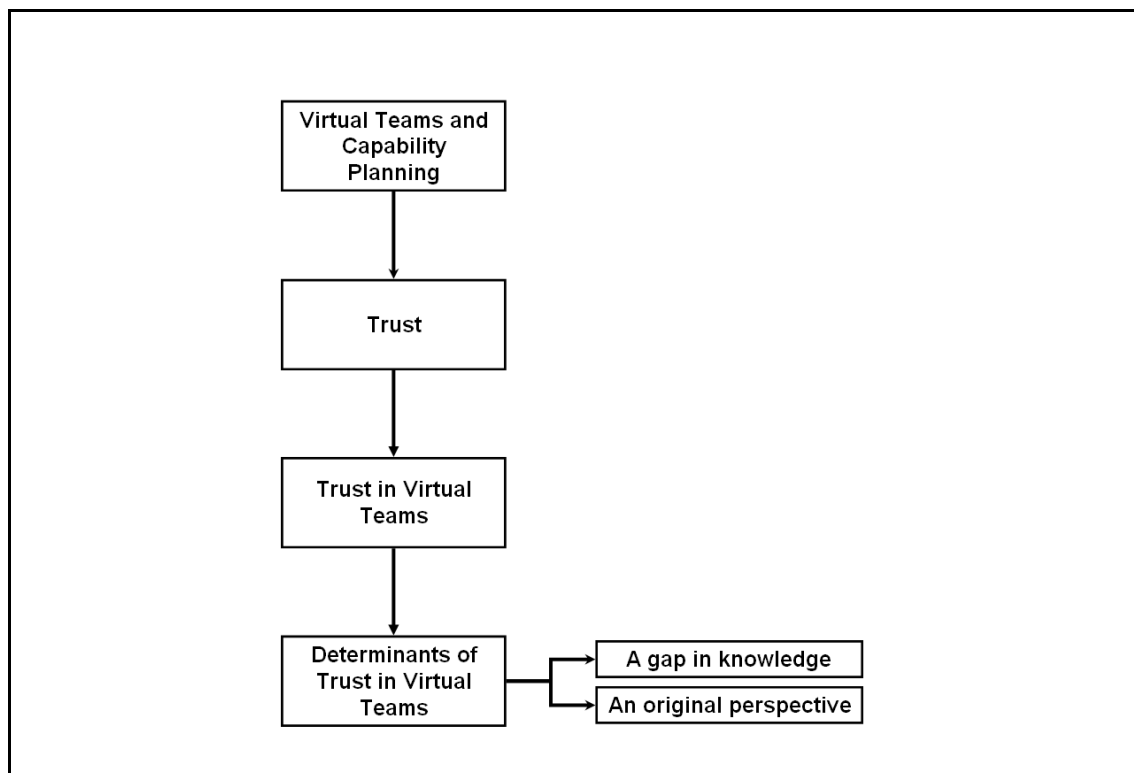
Source: Author

2.1.2 Rationale and structure

With this end in mind, the rationale applied was to explore the topic from different literature streams, pursuing an appropriate balance between academic and practitioner points of view, which are presented with an increasing level of definition, going from developing contextual considerations to the aspects of the interpersonal trust formation in VTs, focused in the determinants of trust in this context. The rationale for the structure and content of this chapter is presented in Figure 2-2.

For this study, a search of literature was conducted via electronic databases: EBSCO, Emerald, Proquest Entrepreneurship, and Taylor and Francis Informaworld; using search words deemed relevant to the topic (i.e. virtual team, virtual organisation, virtual teamwork, collaboration and team, collaboration and network, computer mediated communication, trust, trust and virtual teams, trust determinants). Articles and also books were found reviewing the lists of references in the articles initially retrieved through the databases. Also, additional literature was included, provided that it gave further elaboration on the findings made in the previous literature studied. These findings have been incorporated in this chapter where it is deemed they make the greatest contribution towards the achievement of the research aim.

Figure 2-2 Rationale for the structure and content of the literature review



Source: Author

After this introduction, the second section presents a fundamental view of the use of VTs in capability planning activity, as a means of gaining understanding

about its relevance in the context of capability planning. Central to the topic of this research, a review of VTs is performed, entailing some previous definitions and aspects deemed relevant to consider before addressing a conceptualisation of VTs and their employment in capability planning. Then, the relevance of context and tasks, together with benefits and challenges that VTs bring to organisations adopting them, are reviewed.

Subsequently, in the third section, a conceptualisation of trust in the context of the CPGs is drawn by considering the nature of organisational culture which provides theoretical underpinning for the consideration of trust. Particular emphasis is given to previous research and the literature on trust, the relevance of trust, and on problems with trust conceptualisations. These are discussed leading towards the endorsement of a conceptualisation of trust suitable to the scope the aim of this thesis.

In section four, the consideration of trust in VTs is derived from the literature including the cognitive and affective foundations of interpersonal trust, together with paths for the development of cognitive trust i.e. swift trust and knowledge-based trust. These foundations are subsequently examined through trust determinants considered from presumptive and cognitive dimensions. Also, risk and trust development over time as considerations in the behavioural manifestations of trust are included. Then, an adapted model of trust, devised for the analyses of determinants in VTs, under the particular perspective of this research effort is considered. This adapted model is focused on interpersonal trust, including cognitive and affective dimensions of trust development and evolution through time, elements influencing trust, prior to and through personal interactions; together with the consideration of risk in the process leading to engagement in trusting behaviour.

From this comprehensive review of the literature, its discussion and the interaction with sources related to the topic from academic and practitioner perspectives and the elaboration of conceptualisations derived from it, a conceptual framework for research is presented. This framework is focused on interpersonal trust determinants in VTs, including cognitive and affective dimensions of trust development and evolution through time. The framework constitutes the primary element that will guide the research design, which will be presented in the next chapter.

2.2 Virtual teams and capability planning

In simple terms it could be argued that virtual teamworking takes place whenever people from an organisation or from different organisations work together through the facilitation of information technologies. Even though business and military activities are performed with quite different means, behind both kind of activities there are structures and processes leading up to and controlling such activities, which have substantial similarities²⁰⁸. Therefore, before addressing the conceptualisation of a VT in military capability planning, it is useful to contextualise it, by means of considering the capability planning ways of working and some previous definitions such as organisation and team; all of this, leading to the concept of VT.

The concept of VT is central to this research because it is inside such a team that the inputs from different perspectives or functional areas are integrated into the main outcome of a CPG: an updated Capability Management Plan. But, these CPGs are integrated by people and, in order to get these people to contribute in a way that outperforms a more traditional, collocated, approach, of teamworking, it is necessary that they trust the other members of the team, overcoming the challenges of virtual teaming such as the lack of or reduced face-to-face interaction. The determinants of trust formation, in this context, will be subsequently addressed, through the integration of the literature in a conceptual framework of trust and its determinants in VTs.

2.2.1 Military capability planning ways of working

As discussed in Chapter 1, in military capability planning, different ways of working are employed. CMGs and CPGs are²⁰⁹ VTs with members from different MOD organisations and located at different geographical sites. Daily work at CMG and CPG level is undertaken by meetings, virtual team working and utilising the decision conference process. In this regard, organisational support is considered a key success factor²¹⁰ for VTs. Furthermore, organisational support is reflected²¹¹ in the implementation of systems that support operational activities, with specific mechanisms for each activity. In capability planning some software tools (Meridio and Connect Database) and virtual repositories (virtual team sites) are used. In order to produce a prioritised list of options in stage six of the capability planning process, 'Endorse the CMP', decision conferencing is utilised. This is a structured method of facilitation, supported by a software tool (Equity), which²¹² helps to choose the best range of options that maximise capability within given financial limits. In order to overcome extended geographical spread and, at the same time, bring together all the different skills and perspectives required.

Decision conferencing²¹³ are intensive working meetings conducted as live, working sessions. They help to create,²¹⁴ on-the-spot, a computer-based model which incorporates data and the judgements of the participants in the groups, providing scope for representing both the many conflicting objectives expressed by participants, and the inevitable uncertainty about future consequences. The Equity software allows for the grading and ranking of options into an order of priority, through military judgement, and into an order of 'cost benefit'.

Within this capability planning process, according to Yue & Henshaw, an issue that must be carefully considered is the fact that the organisations involved²¹⁵ in capability development exhibit various behaviours, and the stakeholders all have their own objectives, which are not necessarily aligned and may sometimes be conflicting. In addition, Carr, looking at acquisition as a human system²¹⁶, maintained that the fundamental principle of TLM is to retain a continual focus on the purpose of the higher level systems, and avoid the traps of solutioneering, technology fascination and process ruts. In relation to the understanding of defence needs, and navigating a course to meet those needs, Carr asserts²¹⁷ that it is complex, dynamic and ambiguous problem, and that there is no such thing as a 'solution'. In this regard, it is argued that the most

effective methods²¹⁸ for this sort of problem are not the traditional, rational, analytical approaches favoured by many science, engineering and management domains. Arguably, more effective²¹⁹ are methods based on the things that only humans can do: dialogue, negotiation, creativity, initiative, sharing understanding and the developments of insights, intuition and cohesion.

Thus, military capability planning relies on VTs which integrate people from different functional areas of the MOD. These people are geographically spread to some extent and are supported by IT systems that support their activities, in order to achieve required outcomes. In addition, guidance is provided by the MOD's Acquisition Operating Framework (AOF). In this regard, the AOF constitutes²²⁰ authoritative source of policy and good practice. To sum up, in capability planning activity this hybrid (neither collocated, nor fully virtual) way of working has been undertaken.

2.2.2 The nature of organisations and teams

The fundamental perspective regarding the use of VTs in capability planning is that organisations utilise teams to commit people with complementary skills, from different organisational or functional areas, to pursue a common goal. Further, and because of the impacts of major drivers on about all organisations, an increasing trend has been, and is supposed to continue increasing, encouraging the employment of VTs. This is in order to undertake military capability planning activities in such a way as to underpin the consequent delivery of through-life military capability in a way that is more responsive to uncertainty, economic constraints and risk.

Before moving to a discussion about VTs, it is important first to consider, for the purpose of this research, the terms 'organisation' and 'teams'.

2.2.2.1 Organisation

The Oxford English Dictionary defines organisation as an organized body of people²²¹ with a particular purpose, as a business, government department, charity, etc. Arguably, there are many ways of defining what is meant by an organisation. Buchanan & Huczynski define an organisation as a social arrangement²²² for achieving controlled performance in pursuit of collective goals. They argue that the goals pursued by individual members²²³ of an organisation can be quite different from the collective purpose of their organised activity. This creates a central practical and theoretical organisational dilemma in the design and study of organisations²²⁴: the question of how to reconcile potential inconsistency between individual needs and aspirations on the one hand and the collective purpose of the organisation on the other.

Identifying current and future factors which could impact²²⁵ on the organisation usually generates a long list. Buchanan & Huczynski argue that there are three major trends²²⁶ affecting just about all organisations. These are, globalisation, information technology (IT), and social and demographic trends. In this context of organisations potentially impacted by their external environment in different degrees, it is argued that organisations encompass a continuing²²⁷ search for

'fit' between their internal characteristics and features of the external environment.

Organisations traditionally tended to concentrate their personnel in different functional departments. It is argued that there has been a transitional trend replacing them by matrix organisations, and subsequently to some extent by networked organisations. In this regard, Kimble maintains that in recent years, many companies have begun to move toward a style of working²²⁸ that is explicitly cross-functional and built upon flatter structures, moving toward team-based structures where groups take responsibility for a particular organisational deliverable. Arguably, organisations²²⁹ in the public and private sector similarly face ongoing pressures to become more flexible and responsive to change, and are looking increasingly to virtual forms of organisations to reduce organisational slack and facilitate cross-functional learning. In this regard, it is argued that the virtual organisation as a new organisational paradigm²³⁰ is a result of a dominant theory and practice of the innovative companies of information-computational technology.

2.2.2.2 Teams

Similarly, the Oxford English Dictionary defines team as a number of persons²³¹ associated in some joint action; now esp. a definite number of persons forming a side in a match, in any team sport; hence, a group collaborating in their professional work or in some enterprise or assignment. In 1999, Lipnack & Stamps maintained that in business environments, teams²³² were accepted as the smart way to organise for flexible and cost-effective organisations.

Allegedly, effective teams produce more ideas and more information than people working in isolation do. Teamworking would result in better outcomes due to different attributes and perceptions added up by team members. In addition, it is argued that organisations experience change at ever-increasing pace, these changes occurs in the context of rising participation in teams. For example, a 1993 survey of 1,293 US-based organisations by the American Society for Quality Control²³³ and the Gallup organisation found that over 80 per cent of respondents reported some form of work-team activity (primarily problem-solving teams); two-thirds of full-time employees indicated that they participate in teams and 84 per cent participated in more than one team. Additionally, a survey by the Industrial Society in 1995 of 500 personnel managers found²³⁴ that 43 per cent worked in organisations with self-managed teams. Moreover, a 1996 survey by Dale Carnegie Training identified²³⁵ that 90 per cent of American workers spent at least part of their work day in a team scenario, even though only about half received any teamwork training. Although these figures are not comparable, they are still valid and suggest that teams are a common form of organisational work.

Katzenbach & Smith suggest that a team, the most common and basic working unit in today's business organisations, is a²³⁶ small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable. They argue that a team can be seen as a psychological group²³⁷ whose members

share a common goal, which they pursue collaboratively. Members can only succeed or fail as a whole, and all share the benefits and costs of collective success or failure.

The use of teams²³⁸ has increased significantly as organisations (both public and private) have turned more and more jobs over to team-based structures. Teams are now being used²³⁹ in innovative ways in different disciplines, strategic planning among others. Experiences²⁴⁰ from organisations using the team approach for improving performance have pointed to teamwork as an important tool in business success. Moreover, as empirical evidence denotes, much organisational work is performed²⁴¹ in teams. Their performance, thus, affects the success of the organisation as a whole. Accordingly, since the chances of either working in a team or managing one²⁴² are so high, it is prudent to know how they operate.

Many different types²⁴³ of team operate within organisations. Sundstrom et al distinguished four types of team, based on their objectives and type of output produced: advice, action, project and production. In this regard, one of the most common²⁴⁴ types of project teams is the cross-functional team: a team composed of employees from about the same hierarchical level but from different work areas or functions in the organisation, who are brought together to complete a particular task. Cross-functional teams allow²⁴⁵ members to share information that would previously have never crossed the walls of the traditional functional silos. Potentially,²⁴⁶ these teams shorten the length of time spent in planning and create opportunities for joint problem solving, presumably resulting in buildings that are more attractive, safer, cheaper and completed sooner. They are supported²⁴⁷ by their organisation's structures, systems and skills, which enable the teams to operate successfully as a more independent unit towards goals that transcend the combined abilities of individual members. Arguably, cross-functional teams differ from other types of team in three important respects²⁴⁸:

- Representative: they are representative in that their individual members usually retain their position back in their 'home' functional department.
- Temporary: they have a finite life, even if their end is years in the future.
- Innovation: they are established to solve non-conventional problems and meet challenging performance standards.

Arguably, together with some advantages cross-functional teams also bring disadvantages. On the one hand, it is believed that cross-functional, geographically distributed workers provide²⁴⁹ great advantages by bringing to bear the diverse skills of scarce specialists on problems or projects that span traditional organisational boundaries, in such diverse areas as software development, engineering, nursing, purchasing, and new product development. Conversely, it has been argued²⁵⁰ by critics that cross-functional team members, since they are representatives, owe their true allegiance to their home, functional department; that the chances of pressure and conflict are higher than in other teams; and that their temporary nature puts strain on

members who have quickly to develop stable and effective working group processes. Critics of cross-functional teams also acknowledge²⁵¹ the restrictions on information flow and knowledge, and therefore on performance and the internal battles over intra-company territories, that functional boundaries cause. This view encapsulates²⁵² the main tensions many researchers perceive in a shift to increased cross-functional team application: members' allegiance to their home and restrictions on performance and disputes that functional boundaries cause.

Regarding the use of the terms group and team, contentious positions are sustained. Several authors suggest that the term 'team' should be used²⁵³ for those groups that display high levels of interdependency and integration among members. In this regard, Annett & Stanton²⁵⁴ suggest that the key distinction between a group and a team is that the members of the latter share a common goal that they pursue collaboratively. They can only succeed or fail as a whole, and the members of that team share the benefits and costs of success or failure. In contrast, the members of a group may share a number of common features, and each has their individual goals, but if they lack a common goal, they will be in a competition with each other.

According to Buchanan & Huczynski, group and team working literature²⁵⁵ remains controversial. On the one hand, it promotes the benefits of group working, and commonality of interests between individuals organised as teams, and the goals of the 'organisation as a whole' is stressed. Conversely, critics contend that the extent of group-management conflict has been misinterpreted, underplayed or simply ignored. Moreover, Buchanan & Huczynski argue²⁵⁶ that, in the literature, the terms 'group' and 'team' are used interchangeably, with the personal preference of writers and tradition guiding the choice of word, rather than conceptual distinction. Nevertheless, Katzenbach & Santa Maria examining US Marine Corps managerial practises differentiated²⁵⁷ a team from a single-leader work group from eight different standpoints ranging from who set goals and agenda, to the individual or collective nature of the primary end-products. This differentiation will be addressed subsequently, when addressing a definition of VTs.

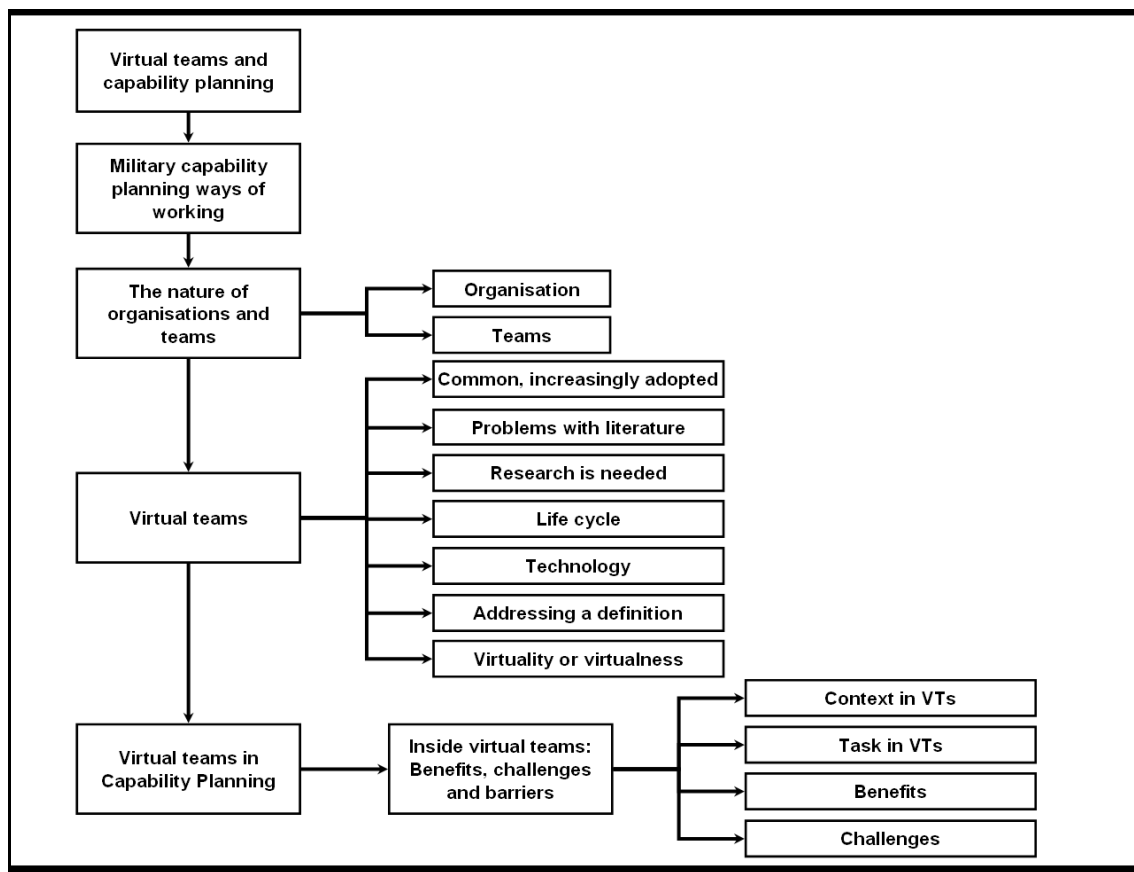
Arguably, when considering groups or teams it is essential to differentiate two disciplines: single-leader and team (this will be discussed in 2.2.3.6 'Addressing a definition' of VTs). Allegedly, this differentiation would be more relevant in the case of VTs. Moreover, it appears to be key to share a common goal to be pursued collaboratively. In addition, there are some tensions perceived when applying cross-functional teams regarding individuals' allegiance and restrictions related to performance and intra-organisational boundaries.

Consistent with the views expressed in relation to organisations, it is argued that some of the approaches to teams fail²⁵⁸ to address the fact that people have their own reason for doing things. In addition, the empirical research²⁵⁹ on teams in organisational contexts is moving in the direction of increased complexity, but this work still has a way to go to match developments in the conceptual domain. In any case, consequently as is apparent from this

discussion, developing team and team work²⁶⁰ will continue to be a major thrust for all organisations over a future planning horizon.

Allegedly, the impact of the three mentioned major trends on organisations and, in particular, on teams with a cross-functional nature, has led to an increasing prominence of VTs. From now on, in this section 2.2, a conceptualisation of VT will be encompassed (see Figure 2-3). It includes antecedents deemed relevant for this thesis work. They have to do with its increasing relevance, problems with literature about VTs, the need for research; and considerations about its life-cycle, technology, and the idea of virtuality or virtualness. In summary, a conceptualisation of VTs, leading to the endorsement of a definition of VT useful for this research purpose. Finally, a discussion about its advantages and disadvantages is presented. Subsequently, in the next Section 2.3, a conceptualisation of trust pertinent to this research will be undertaken, leading to the consideration of trust and its determinants in VTs in Section 2.4.

Figure 2-3 Sketch of Section 2.2 Virtual teams and capability planning



Source: Author

2.2.3 Virtual teams

Arguably, VTs are essential²⁶¹ for the functioning of an increasing number of organisations. In this regard, in order to take advantage of VTs' benefits and to avoid their potential pitfalls, it is essential to understand how they work. In order to do that, it is necessary to subscribe a conceptualisation of VT suitable for the

context under study, which is the utilisation of VTs in military capability planning. In this subsection, it will be argued that this conceptualisation has remained problematic because of the many different contexts or disciplines in which VTs have been studied. However, from the literature, some convergent points have been identified and will be discussed. They have to do with the increasing recurrence and relevance of VTs, problems with available literature on the topic, the need for research, VTs life cycle, technology, addressing a definition of VTs and the consideration of the concept of virtuality or virtualness.

2.2.3.1 Common, increasingly adopted

According to Bergiel et al, virtual teaming is something no one really planned methodically²⁶²; rather, it developed because the appropriate supporting technology became available. Even though VTs are a relatively new²⁶³ trend in knowledge-based societies, Baungaard & Wangel, trace the origin²⁶⁴ of virtual organisations back to the early 20th Century from the organisational theory's perspective (See Table 2-1). However, until the early 1990s the idea²⁶⁵ of virtual work remained just an idea. Simultaneously, to cut bureaucracy, reduce cycle time, and improve service, line-level employees took on²⁶⁶ decision-making and problem-solving responsibilities traditionally reserved for management. In the 90s a new kind²⁶⁷ of team emerged, VTs or virtual teaming. In parallel, the literature about VTs started²⁶⁸ to receive a great deal of attention in the early 1990s, which was primarily focused on the benefits of such teams, directing little attention toward understanding their potential problems and challenges. Since the mid-1990s, the concept²⁶⁹ of VT has evolved towards the idea of organisations capable of rapidly creating teams of talented people who can respond to the needs of their customer.

Table 2-1 Origin of Virtual Organisations

Time	Focus
First part of XX Century	Tasks and actions each individual worker was supposed to undertake in order to produce goods and services as effectively as possible
Second half of XX Century	Whole interrelated system of tasks and roles
From the beginning of the 1980s	Values and beliefs, also called organisational culture Concept of learning organisation coined
From the middle of the 1990s	Notion of virtual organisation became more and more in focus

Source: Tabulated from Baungaard & Wangel, 2007

Virtual teaming is an increasing organisational trend. In the mid-1990s Handy argued that organisations in the public and private sector²⁷⁰ were looking increasingly to virtual forms of organisation. Further, relatively recent developments²⁷¹ in technology have increased people's ability to communicate effectively across space and time. Arguably, there is a transitional trend from

bureaucracies to networked organisations reliant on VTs. It is suggested that the matrix organisation²⁷², which replaced more traditional bureaucratic forms, is being superseded by organic and virtual organisations. In this regard, according to Lipnack & Stamps, the easiest way²⁷³ to transition from hierarchy/bureaucracy to a networked organisation is to add links to connect the various functions, resulting in a strong but flexible structure better able to resist the impact of change. Furthermore, Lipnack & Stamps concluded²⁷⁴ that the 'organising challenge of our time is to learn to work in VTs and networks while retaining the benefits of earlier forms. In this regard, it is deemed that VTs are the basic component²⁷⁵ of virtual organisations.

Due to the inaccessibility of critical resources²⁷⁶, especially information, the most well designed organisational teams cannot always accomplish their objectives. This has led to the formation of VTs. As a consequence, virtual team working is now increasingly widespread and is employed in the most diverse disciplines either in the private or the public sector. Moreover, as discussed in 2.2.2.2 'Teams', frequency of collaborative working arrangements and use of network forms of organisation is increasing. In this regard, VTs are nowadays a common²⁷⁷ form of organisational work. Organisations use²⁷⁸ VTs to innovate, make decisions or solve complex problems, tasks that heavily rely on information processing. Apparently, it has been quite likely for some time that the use of VTs will only increase²⁷⁹ within and between organisations. Furthermore, as a result of the recession in the second half of the 2000s, VTs²⁸⁰ are growing at an unprecedented pace, optimising technology and VTs. For example, big organisations like Microsoft show in their major investments, such as in its acquisition of Skype in 2011, its confidence that the work environment is increasingly becoming more 'virtual'²⁸¹.

Even though it remains unclear²⁸² what makes VTs a potentially powerful new organisational form, it is deemed that VTs represent an organisational form²⁸³ that could revolutionise the workplace and provide organisations with unprecedented levels of flexibility and responsiveness. VTs continue to gain popularity²⁸⁴, as organisations are beginning to discern the capability of using VTs and are realising the potential benefits of using computer and communications technology to support organisational teams. Moreover, empirical data support the idea that VTs are being increasingly adopted. In 1999, the Wall Street Journal reported²⁸⁵ that more than half of companies with 5,000-plus employees used VTs. In addition, a survey from the Gartner Group²⁸⁶ in 2002 found that more than 60% of professional employees worked in VTs. A survey from a provider of training services in 2010 found that 80% of respondents²⁸⁷ reported they were part of a team with people based in different locations. Further, in 2011 a report of VTs by Brandman University²⁸⁸ concluded that 40% of respondents from Fortune 500 organisations indicated that more than 40% of their employees work in VTs. Moreover, 21% reported that 61% or more of their employees work in VTs. Although the figures presented here are not comparable, they suggest that it is quite plausible that VTs will continue increasing as a form of organisational work. Consistent with this perspective, 56% of the hiring managers surveyed by Forrester Consulting in December

2010 among Fortune 500 companies expect that virtual teaming will steadily or greatly increase in their company²⁸⁹.

As the nature²⁹⁰ of work in today's organisations becomes more complex, dynamic and global, there has been increasing emphasis on distributed VTs as organising units of work. In this regard, VTs are often created²⁹¹ to allow people with different backgrounds, expertise and perspective to work on a problem. In this manner, they constitute important mechanisms²⁹² for organisations seeking to leverage scarce resources across geographic and other boundaries. Then, it is common²⁹³ to see organisations relying on VTs for core processes including knowledge management, research & development, product development, software development, customer service and strategic analysis.

It is important to stress that VTs are not an organisational panacea²⁹⁴ and that the degree to which organisations will benefit may differ. In this regard, Bullock & Tucker Klein argue that scepticism²⁹⁵ about the perceived effectiveness of VTs continues as perceptions of the quality of work and productivity on VTs lags behind the pace of adoption. Moreover, in qualitative interviews, employers expressed concern²⁹⁶ about reduced potential for advancement in a distributed work environment. In any case, Bergiel et al maintain that although VTs may not be the solution²⁹⁷ for every organisation, that trend is not going to go away. VTs are becoming an increasingly common²⁹⁸ mode of working, even if their limitations are not properly recognised and certainly not resolved. In this context, developing the technology and employee skills necessary²⁹⁹ for effective VT implementation carries a cost in time and financial investment that must be offset by the competitive advantage VTs afford. Consequently, the potential benefits of VTs in modern business organisations, especially those engaging in global operations, have attracted³⁰⁰ a great deal of attention from researchers in all disciplines of business management. In addition, with VTs being increasingly adopted by organisations to gain competitive advantages, it is imperative³⁰¹ to further the understanding of effective team process and work relationship in this distributed work arrangement.

2.2.3.2 Problems with literature

As it has been discussed, VTs are a relatively new organisational trend which is becoming common, being increasingly adopted to perform different activities in different kinds of organisations. It is also sustained that it may not be the solution for everything. This idea makes room for the need of a careful consideration of VTs in different contexts. Then, when considering VTs, it is practical to acknowledge from the outset some problems that can be found regarding VTs literature.

It is argued that VTs are still in early stages³⁰² of investigation and that significant work remains to be done to understand these new organisational forms. Moreover, although research on virtual teamwork has increased³⁰³ substantially in recent years, there has been little theoretical development to guide this research. In addition, it is argued that a wide variety³⁰⁴ of disciplines and literatures have addressed the idea of VTs, and that literature on VTs is

sparse³⁰⁵, especially with regard to actual VTs performing meaningful tasks in organisations.

Literature on VTs presents³⁰⁶ fairly diverse viewpoints on this emerging concept. There are conflicting reports³⁰⁷ and a pronounced uncertainty about the fundamental dynamics and functionality of VTs. Contradictory findings³⁰⁸ have supported theories that emphasise characteristics of the communication medium, as well as theories that emphasise social influences, which have often been seen as competing and conflicting types of theories. As an example, in 1995, Walther found, in a review of the literature³⁰⁹ on computer-mediated communication, contradictory theoretical specifications and empirical findings, arguing that past research results were difficult to compare as their research methods revealed inconsistent approaches. Further, in 2006, Kock et al stated that much research has suggested³¹⁰ that electronic communication media, pose obstacles for communication in comparison with the face-to-face medium and that, conversely, research has also suggested that teams interacting primarily electronically could perform quite well, sometimes even better, than face-to-face teams.

Research on VTs has proliferated³¹¹ in the last decades. However, few clear and consistent theoretical attempts to integrate the literature on VTs in a systemic way have emerged. It is argued that most of the VT literature³¹² is anecdotal or case-based. In addition, much empirical research³¹³ implicitly assumes that VT members never meet face to face. This last underlying assumption will be discussed subsequently when addressing the concept of virtuality or virtualness in 2.2.3.7, as a consideration in the definition of VT.

Even though in recent years, VTs have been subject³¹⁴ of considerable research attention; understanding about VTs remain fragmented, making it difficult to fully understand VTs and to obtain an integrated domain of study. Moreover, the comparison³¹⁵ between conceptual papers and empirical results from quantitative studies is difficult because the available research is published in quite different journals and books. To make it worse, VTs studied to date³¹⁶ have been characterised by little formalisation in the way of managerial structures or working procedures.

Previous research reviewed in 2004 showed³¹⁷ relatively small VTs (less than eight individuals, averaging four members), studied in controlled settings with more than 90 percent of published articles using student teams; conversely, VTs studied in situ have been relatively large (with more than eight members, averaging 12-13 individuals). In addition, very large proportion of the research is based on³¹⁸ very short-term studies and little of that work explores effects of experience over time, and virtually none of it explores effects of change in members, tasks, technology or context.

Even though VTs have been the subject of much research, a key obstacle³¹⁹ to achieving an integrated understanding of what drives VTs, is the lack of an integrative theory-driven framework, through which organise and make sense of prior, and guide future, research. Moreover, Kirkman et al state that most of the knowledge³²⁰ about VTs derives from practitioner articles, popular books, case

studies and theoretical work; with some subsequent exceptions including empirical investigations which are criticised for using students performing artificial tasks with unrealistic time limits. For example, Sarker et al proposed a model³²¹ which was used to perform a study involving student subjects from North American universities, suggesting that their model of trust in VTs could be used to isolate and measure specific bases of trust in a particular VT, helping managers to devise focused strategies to enhance the desired components of trust. Furthermore, Powell et al sustained that one inherent limitation³²² associated with using student teams is that they often lack clear power structures and that they are presented with is often well defined early on. In this regard, Kirkman et al, as well as Kimble et al, contend³²³ that to understand what is required for VTs to be successful, studies examining ongoing virtual work teams performing meaningful, complex tasks in business organisations are needed. To sum up, despite increasing attention to VTs, their study from diverse viewpoints and with different emphasis has resulted in a fragmented and incomplete body of literature. Hence, new research is needed to understand the problems faced by VTs if they are to achieve their full potential.

2.2.3.3 Research is needed

As discussed in the last paragraph, and because of the relative newness of VTs³²⁴, many areas of research have not been examined. While research³²⁵ into traditional teams offers a valuable theoretical background and a starting point for VT research, VTs with their unique managerial, technical, and social challenges, call for additional, specialised research. Moreover, as the use of VTs in organisations becomes³²⁶ more and more widespread, there is a need for rigorous research investigating the dynamics of this novel organisational structure. Similarly, as the technological infrastructure³²⁷ necessary to support VTs is now readily available, further research on the range of issues surrounding VTs is required.

Even though the concept of virtual teaming is not new, it is a relatively recent area for research. The consideration of the literature supports the idea of 'a broad variety' of perspectives and a shifting trend in the focus of the research. It moved on³²⁸ from enabling information and communication technologies and processes; to social and human aspects, teamwork and management (such as the relevance of the concept of virtuality when defining VTs); the nature of the task encompassed; and the formation of trust as key elements to exploit the potentiality of VTs. Moreover, as the focus of research shifts, the degree of importance of the various factors has changed. Baker (2002) states that early research focused³²⁹ on the comparison between face-to-face meetings and meetings utilising various types of technological support; but as different activities are moving from face-to-face to virtual environments, it is important to look at other aspects of VTs; such as examining³³⁰, longitudinal teams and collecting data related to different kinds of tasks.

Although working in geographically distributed teams is becoming more widespread, processes for their effective functioning³³¹ are not fully understood. Clearly additional research is needed³³² to identify and increase understanding

of the antecedents of VT collaboration. Regarding the management³³³ of VTs, many issues have only slightly been addressed by systematic research and many others not at all. Research into factors that facilitate VT adoption and use³³⁴ in various segments of industry, taking into account adapted working procedures and managerial structures, is lacking and is urgently needed to develop a holistic understanding of the subject.

Research findings that reflect³³⁵ on the richness of social and human aspects of VTs interactions have just started to emerge. These aspects were overlooked before, as previous studies³³⁶ concentrate mainly on the media richness of communications and the degree to which multimedia technologies can provide rich channels of communication, in order to facilitate task co-ordination amongst globally dispersed team members. In this regard, some researchers propose³³⁷ that the effects of advanced technologies are less a function of the technologies themselves than of how they are used by people.

Although the number of articles investigating³³⁸ the virtual work environment has increased dramatically, an analysis from Watson-Manheim et al indicated that the field is not yet converging and that instead of trying to make sense of 'virtual' as a whole, it is important³³⁹ for researchers to look more closely at the work situation and investigate more precise phenomena.

Even though the use of VTs has become increasingly common, some VTs have been³⁴⁰ highly successful while others have struggled to achieve objectives. In this regard, a piece of research suggests that typical VTs success rates³⁴¹ run at less than 30 percent. Furthermore, another reason to sustain that systematic research is needed is that a deemed success rate³⁴² of even traditional collocated teams is low, with just 5 percent of such teams meeting desired performance goals. In addition, there is growing³⁴³ evidence that VTs fail more often than they succeed. Arguably, the identification³⁴⁴ of the issues involved would enable the organisation to develop business.

While research³⁴⁵ is clearly accelerating on VTs, more research is needed as organisations are increasingly using this new organisational approach to accomplish important tasks. Future research would now seem to be essential³⁴⁶ for developing a comprehensive study, combining literature survey with case study in different size of organisations and various types of activities. Moreover, Watson-Manheim et al highlighted the need for research³⁴⁷ that addresses individuals and groups in actual work situations. As an example of this need for research, it is pointed out that organisational psychologists have only begun³⁴⁸ to develop and test theories of virtual interpersonal dynamics. In addition, Bierly et al encourage³⁴⁹ future researchers to consider the full spectrum of virtuality, not just categorical bifurcation of teams labelled not virtual and virtual. In this regard, Hertel et al, following the idea that virtuality of teams³⁵⁰ is not a distinct but a dimensional attribute, state that more systematic research is needed that explores different levels of virtuality and their moderating effects on team processes. In addition, there is a growing need for a better understanding of the role of different contextual factors³⁵¹, to understand how team members interact with existing entities, norms and processes of their respective organisations.

According to Hinds & Mortesen, despite increased attention³⁵² to geographically distributed teams, still surprisingly little is known about how the dynamics of distributed teams differ from those of collocated counterparts. Furthermore, Ortiz de Guinea et al argue that there is a significant need for research³⁵³ that studies organisational context and nature of task variables, as well as other group characteristics and supervisory behaviours.

In summary, a clear need for research in a number of different areas about VTs is apparent. In addition, emerging research undercovers new avenues to investigate. Moreover, social and human aspects of VTs are starting to draw more attention, as well as the VT's degree of virtuality seen as a continuum and the influence of contextual factors in VTs. Furthermore, it is argued that recent changes³⁵⁴ in the workplace, such as the increase in the use of VTs imposes new requirements between co-workers, making it important for researchers and practitioners alike to explore how trust forms initially, and how it can be maintained over time. Trust and trust in VTs will be discussed subsequently in Section 2.3 and 2.4 respectively.

2.2.3.4 Life cycle

The lack of an integrated approach to the study of VTs also affects the conceptualisation of VTs' life cycles. Moreover, VTs with a more permanent nature, often lack detailed literature, with only sporadic or peripheral research. Consequently, long-standing VTs, with fluid membership are alluded to only tangentially in the literature.

Tuckman & Jensen suggested that groups pass through five clearly defined stages of development: forming, storming, norming (cohesion), performing and adjourning. In the Tuckman & Jensen model, the performing stage (stage four) is the stage³⁵⁵ in which a team has developed an effective structure and is concerned with accomplishing objectives. It is argued³⁵⁶ that not all groups develop to this stage but may become bogged down in an earlier and less productive stage. In this regard, Guirdham argues that there are benefits³⁵⁷ of cultural diversity in group problem-solving, but these can be lost because the social problems of group development – forming, storming and norming – are more severe for heterogeneous groups; accordingly, stress and tension levels in culturally diverse groups often exceed those in homogeneous groups due³⁵⁸ a lack of trust and communication inaccuracies.

Similarly to traditional teams, it appears that VTs go through predictable stages. Different authors have proposed akin stages in a VT life. Greenberg et al suggest that research regarding a VTs's life cycle has found five team's life stages³⁵⁹: establishing the team, inception, organising, transition, and accomplishing the task. Another perspective, by Hertel et al, for lifecycle of VTs indicates that they manifest five distinct phases³⁶⁰: preparation, launch, performance management, team development and disbanding. These stages are comparable to those first mentioned by Tuckman in 1965 and amended in 1970. The work of Hertel et al is deemed particularly useful³⁶¹ as it shows some of the unique elements of VTs that set them apart from other types of teams. Nonetheless, the employment of this idea of lifecycle in VTs is based on the

assumption that a VT is brought together at a certain time and that it goes through activities in order to perform a task or achieve a goal, which could be a common situation. Nevertheless, it does not take into account the practical fact that an increasing amount of VTs are long-standing and that, in addition, in those types of VTs partial membership could change along time.

Arguably, VTs can have a more permanent nature compared to what early research on VTs suggested. Bell & Kozlowski sustain that the life cycle of VTs are largely determined³⁶² by the nature of tasks these teams perform. In this perspective, they maintain that VTs are often created³⁶³ to solve a particular problem or to perform a specific task, and when the job is completed the team disbands. In addition, they argue that VTs have variable³⁶⁴ life cycles, with the prototypical VT characterised by a discrete life cycle. Furthermore, Kossler & Prestridge suggested distinguish³⁶⁵ teams performing similar functions or tasks permanently.

In a more elaborated perspective about VT's life stages, they have been associated to particular social dynamics. Duarte & Snyder outlined a parallel series of stages³⁶⁶ associated with a team's task related to the team's social dynamic (See Table 2-2). This perspective on VTs's development, with parallel series of stages, appear to be more adequate for the consideration of long-standing VTs with fluidity in their membership; the team is established thus there is no preparation or launch, and there is no disbanding as a subsequent stage.

Table 2-2 Task and social stages of virtual teams

Stage	Task Dynamics	Social Dynamics
1	Inception	Interaction / inclusion
2	Problem solving	Position status / role definition
3	Conflict resolution	Power / resource allocation
4	Execution	Interaction / Participation

Source: Duarte & Snyder, 2006

Unlike traditional teams³⁶⁷ that are allowed to develop slowly, VTs are required to be effective in completing tasks and meeting various demands from the beginning to the end of the group life. This is true in particular in the case of permanent or long-standing VTs. Then, in a more permanent setting for VTs, with some membership changing over time, it makes more sense to follow Eom's perspective, which asserts that the evolution of VT to be an established entity can be summarised in three stages³⁶⁸: strangers, acquaintance and partnership. Arguably, a new member coming to the VT would go individually through those stages, allegedly reaching partnership³⁶⁹ when he or she establishes linkages based upon mutual obligation and trust.

2.2.3.5 Technology

Even though a number of authors sustain that the focus of research about VTs has moved from technology to another areas, arguably information and communication technologies has a vital role to play as an increasing facilitator for virtual teamworking. Certainly, VTs³⁷⁰ are considered the groups that communicate and work synchronously or asynchronously through such technologies as e-mail, bulletin boards, videoconferencing, automated workflow, electronic voting, and collaborative writing at different physical locations.

If globalisation as a business pull is one reason³⁷¹ for proliferation of VTs, the other significant reason is the technology push. Availability of information technologies has facilitated more flexible ways of working, as VTs arguably are, connected and communicated through³⁷² various electronic means. Moreover, communication technology makes it feasible³⁷³ for work teams to be formed with members who do not necessarily work in close proximity. In this context, without technology³⁷⁴, we are left with little more than the concept of individuals working independently from dispersed locations, which has been commonplace for some time. Then, people in distributed organisations must rely³⁷⁵ on information and communication technologies in lieu of face-to-face interaction.

A major trend³⁷⁶ in computer-based information systems is the use of information systems technology to help a group of collaborating individuals and organisations across time and space. These information technologies for supporting teamwork often termed computer-supported cooperative work are grouped by Stough et al in three types (See Table 2-3). Although this generic classification is likely to undergo adjustments in the future as the state of the art of relevant technologies evolves, they provide a perspective on the scope of present information technologies for supporting teamwork.

Table 2-3 Information Technology for supporting teamwork

Groupware for facilitating communication	Groupware for supporting information storage and retrieval	Groupware for supporting decision making
<ul style="list-style-type: none"> • Electronic-mail (e-mail) • Computer-based conferencing systems • Collaborative writing / programming / drawing 	<ul style="list-style-type: none"> • Workgroup database management systems • Workflow automation systems • Workgroup scheduling (workgroup calendaring) systems • Workgroup shared text base systems 	<ul style="list-style-type: none"> • Group decision support systems • Group support systems and electronic meeting systems

Source: Tabulated from Stough, Eom & Buckenmeyer, 2000

As technology has improved³⁷⁷ and collaborative software has been developed, VTs of members spread across diverse physical locations have become increasingly prominent. Advances in technology have greatly expanded³⁷⁸ how teams interact and perform their activities. Consequently, as technological

advances³⁷⁹ lead to new modes of communication, new areas of research have emerged reflecting these changing conditions.

Even as technology enables people to span different boundaries, its use³⁸⁰ presents new challenges. While the prospects³⁸¹ for the development of VTs are highly favourable through the application of modern technology, the successful maintenance of VTs hinges on improved human relations and interactions. Moreover, although there is an awareness that technology is changing the way teams within organisations are structured, relatively little is known about how VT dynamics differ from structures that are more traditional. In this regard, Chang et al sustain that successful VTs depend more³⁸² on people than technology. They maintain that technology would not work³⁸³ unless the people issues are addressed first.

To sum up, literature on VTs and technology suggest that being equipped with even the most advanced technologies is not enough³⁸⁴ to make a VT effective, since the internal group dynamics and external support mechanisms must also be present for a team to succeed in the virtual world.

2.2.3.6 Addressing a definition

The diversity of the literature on VTs makes possible multiple perspectives to address a definition of what is meant by VT. On the one hand, people brought together for short periods or indefinitely can form them. Alternatively, they can be considered as cross-functional or from the same functional area teams. In order to integrate a conceptualisation, useful for the purpose of this thesis, from now on a definition of VT is considered, allowing subsequently to discuss about VTs contexts, tasks, and potential advantages and disadvantages.

Virtual or dispersed teams

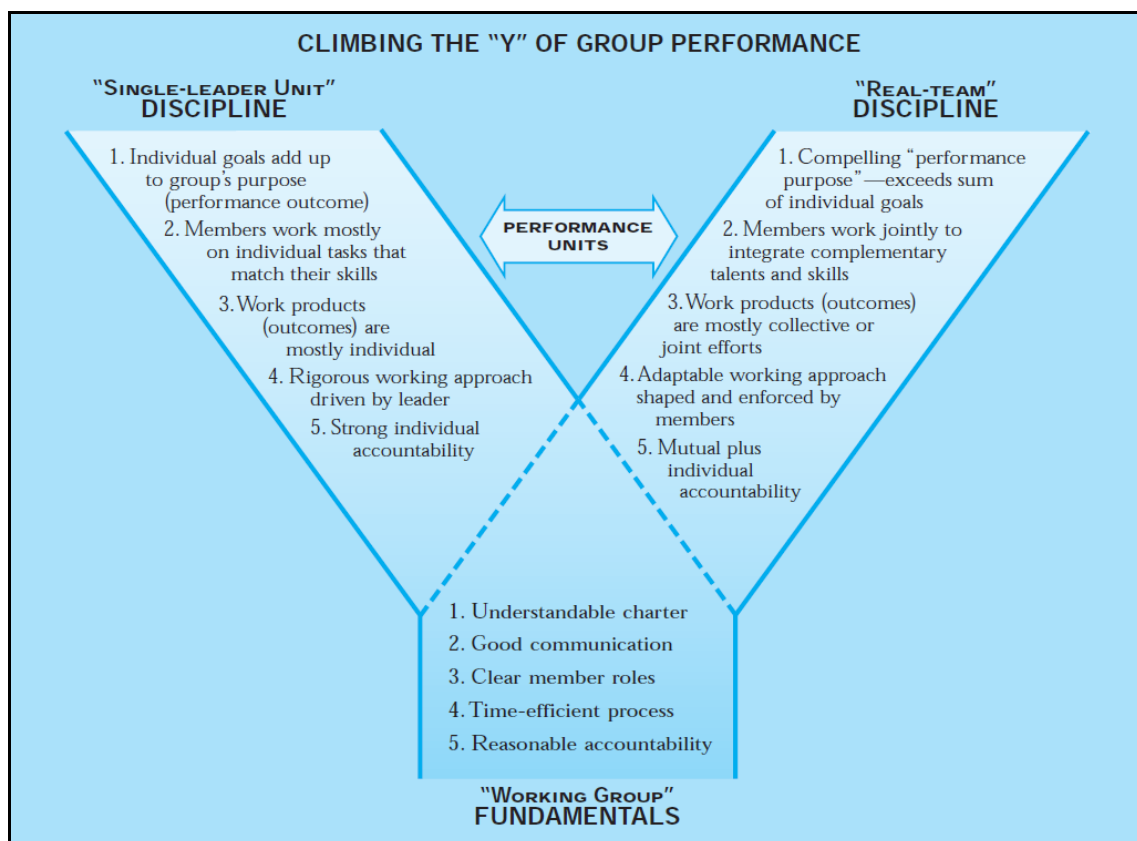
Henry et al suggest that virtual or dispersed teams have the following characteristics³⁸⁵:

- Members are mutually accountable for team results.
- Members are dispersed geographically (nationally or internationally).
- Members work apart more than in the same location.
- The team solves problems and makes decisions jointly.
- The team usually has fewer than 20 members.

Subsequently, Katzenbach & Smith³⁸⁶ argue that proficiency in the use of group work technology or groupware is secondary to the basics of team discipline which produces results that are clearly superior to what small groups can obtain operating in a traditional hierarchy under a command-and-control discipline. Moreover, it is argued that the effects³⁸⁷ of communication technology and its usage may be quite secondary to those that result from how the virtual group or team interact. In this regard, virtual work groups must master two different

disciplines: single leader and team (see Figure 2-4). In their view, it must be differentiated³⁸⁸ between two critical situations: individual tasks and goals that members could achieve under clear single-leader direction, and critical collective work that demand real-time collaboration, multiple leadership, and the disciplined behaviour of a real team. The differences are straightforward³⁸⁹: tasks and goals that are best accomplished by individual working under a single leader's direction versus tasks and goals that require close collaboration among two or more people working together in real time with access to multiple leaders. In other words, individual goals that add up to a group's purpose versus performance purpose exceeds sum or individual goals. In this regard, Katzenbach & Santa Maria argue that one of the most common – and damaging – occurrences³⁹⁰ in business is executives putting together single-leader work teams and calling them teams, such a mistake confuses and demotivates people and undermines the performance of small groups. In short, for Katzenbach & Smith the core of the challenge³⁹¹ is to create trust across different cultures, apply multiple leadership approaches, meld the complementary skills of different members, integrate individual and collective work products, and enforce individual and mutual accountability.

Figure 2-4 The Discipline of Virtual Teams



Source: Katzenbach & Smith, 2001

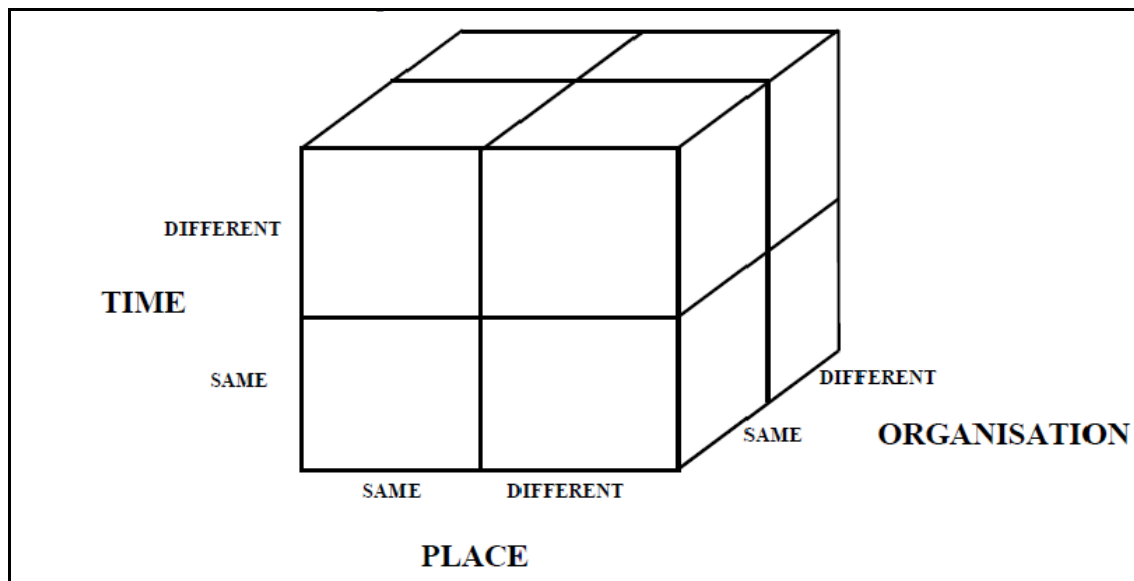
According to Benarek & Martz, new environmental characteristics³⁹² make communication and collaboration even more critical to team's success. Information and communication technologies³⁹³ can potentially increase the

effectiveness of team working by removing barriers of place and enabling individual team members to work together across organisational and geographical boundaries. In this regard, key enablers³⁹⁴ of VTs are facilitating hardware and software technologies. Members of these teams are connected³⁹⁵ by technological hardware and collaborative software. Similarly, their communication³⁹⁶ may be synchronous, with interaction at the same time; or asynchronous, interacting with delays.

Earlier considerations of VTs

Earlier considerations of VTs (see Figure 2-5) defined them by their location, time and organisational dispersion (same or different organisation); focusing on technology mediated communications through different boundaries as time, geography or language. More recently, the focus of enquiry³⁹⁷ shifted to organisational teams working on 'real-world' tasks, and the definition of VTs began to undergo a transformation and some refinement, addressing aspects such as the degree of technology mediation that is necessary to be considered virtual. In any case, a commonly used and generally agreed upon definition³⁹⁸ of VT is difficult to find. This has to do with the fact that virtual teams³⁹⁹ have many forms, differing objectives, different membership criteria, organisational affiliations, tasks types, and so on.

Figure 2-5 A classification of virtual team working



Source: Kimble, Li & Barlow, 2000

Regarding the 'designation' of VTs, different names can be found in the pertinent literature: conventional, traditional, hybrid, pure. Also, functional, lightweight, heavyweight or autonomous has been used⁴⁰⁰. In addition, the qualifiers⁴⁰¹ virtual, dispersed, distributed, far-flung, and global have all been used to represent teams that span multiple geographical locations and rely on IT to perform their work. Griffith et al propose three distinct categories⁴⁰² based on three dimensions of 'virtualness': traditional, hybrid and pure virtual, noting that most of today's organisational teams are likely to fall into the large hybrid

category. What have not been well clarified⁴⁰³ are the variations that may exist in the types of such teams. Again, diversity of perspectives is commonplace. For example, Duarte & Snyder described seven basic types⁴⁰⁴ of VTs: networked, parallel, project or product development; work, functional, or production; service, management and action teams. Moreover, some terms used tend to be associated with a particular characteristic by some authors without being grounded conventions. For example, Kossler & Prestridge suggest⁴⁰⁵ distinguishing a geographically dispersed team performing similar functions or tasks permanently from a virtual team consisting of individuals from various disciplines, performing a single task in a specified period, as a temporary concept. Another example is Dube et al who suggest that 'Global' VTs differ⁴⁰⁶ from VTs in that they are dispersed around the world and rarely meet face-to-face if at all, implying that the term global implies membership from different countries or cultures. Moreover, there is no single cut-off point⁴⁰⁷ at which a team 'becomes' a virtual team.

Related concepts

Taking into account that for some authors, a VT is only recognised⁴⁰⁸ as such if all of the team members perform the majority of their work from different locations, a basic differentiation is worthwhile. From the outset, it is important to distinguish⁴⁰⁹ between virtual structures and the use of telecommuting/telework, another means of overcoming geographic boundaries, within a traditional organisation. Then, before addressing a definition of virtual teams, it is useful to consider what is meant by teleworking and network organisation, two closely related concepts to virtual team, but not equivalent.

In a simple definition, teleworking⁴¹⁰ is working at a distance from the employer, using IT to keep in touch with employers, colleagues or customers. Work can be done at home, on the move, at a customer premises or in a centre providing IT facilities, anywhere outside the normal office. The five main reasons⁴¹¹ argued for adopting telework are: reduced office costs, better work-life balance, environmental considerations, improved and cheaper technologies and business resilience. In this perspective, teleworking is another work practice which is becoming widespread. On the other hand, a virtual organisation⁴¹² is related with a fundamental change in organising and managing daily operations. On the other hand, a virtual or networked corporation can be seen as an organisation⁴¹³ that coordinates economic activity to deliver value to customers using resources outside the traditional boundaries of the organisation; relying on third parties to conduct its business. In general, however, the concept of VTs does not refer to⁴¹⁴ those networks of companies that come together quickly to exploit fast changing opportunities and create a joint venture for everyone's gain; neither does it refers to simple ways of teleworking.

Proliferation of definitions of VTs

As the literature⁴¹⁵ on VTs has grown, there has been a proliferation of definitions. Bell & Kozlowski states that literature⁴¹⁶ on VTs has tended to treat them as a single type, contending that there are four characteristics whose combination defines a particular team: temporal distribution, boundary

spanning, lifecycle and member roles. Even though a common definition⁴¹⁷ of VT or virtuality has not emerged, in simple terms, VTs can be considered teams⁴¹⁸ whose members use technology to varying degrees in working across locational, temporal and relational boundaries to accomplish an interdependent task. In essence⁴¹⁹, team members are not collocated; and definitely use technology-mediated communication, such as information and communication technologies. In this context, it is deemed that, unlike traditional face-to-face teams, VTs routinely⁴²⁰ cross boundaries through an array of interactive electronic technologies.

Arguably, a VT is typically conceived⁴²¹ as an interdependent group of people, working toward a common goal but separated by a number of boundaries, such as those of space, time, culture or organisational affiliation. The most commonly noted⁴²² boundaries are those of geography, time and organisation, with the first two mentioned in almost all definitions. Nevertheless, there is also a view that VTs are not⁴²³ simply an evolutionary development of collocated entrepreneurial or new product development teams, in the sense that they represent new patterns of interaction. In this context, the differences⁴²⁴ do not purely result from the different locations and variety of communication media used, but more importantly, from the different patterns of social exchange.

As a minimum consensus, VTs consist⁴²⁵ of two or more persons who collaborate interactively to achieve common goals, while at least one of the team members works at a different location, organisation, or at a different time so that communication and coordination is based on electronic communication media. It is important to note that the latter two aspects, difference in location, organisation or time; and, reliance on electronic communication media in this definition are considered as dimensions⁴²⁶ rather than as dichotomised criteria that distinguish VTs from conventional face-to-face teams. In summary, a team will become virtual if it meets some common criteria such as geographically, organisationally and/or time dispersed, coordinating their work primarily through electronic information and communication technologies, in order to complete one or more organisational tasks.

Most current definitions of VTs describe⁴²⁷ them in terms of multiple dimensions. In this perspective, the specific characteristics⁴²⁸ of VTs are identified in the boundary-crossing nature of the team's communications, interactions and forming relationships across space, time and organisations. For example, Alge et al argued that temporal scope⁴²⁹ is a key defining feature of teams, distinguishing future, past, standing, and ad hoc or temporary teams, according to the presence and/or absence of prior experience and future interaction. Similarly, from a temporal perspective, a definitional distinction⁴³⁰ between short-term and long-term perpetual is also utilised by Baskerville & Nandhakumar.

Regarding the nature of the task, positions in the literature are also diverse. According to Davis & Khazanchi, VT members interact⁴³¹ through independent tasks guided by a common purpose. These teams interact⁴³², either in a synchronous or asynchronous mode. In synchronous teams, members collaborate in real-time, whereas in asynchronous teams, members perform

their assigned tasks at different times, at their own pace, and according to their own time limitations.

The adoption of mentioned earlier definitions of VT would limit the scope of this research, because of their deterministic nature. Consequently, a more current perspective is endorsed in this research, including the idea that 'virtual' lies more on a continuum instead of being traditional or virtual. In this regard, Curseu et al identifies four dimensions⁴³³ to address a definition of virtual teams: the degree of interaction and interdependence between the team members, the temporary or permanent character of virtual teams, the extent to which teams rely on technology to communicate, and the level of heterogeneity between members. In any case, Curseu et al argue that any attempt to integrate⁴³⁴ all the dimensions will inevitable produce a multidimensional and incomprehensible framework that is difficult to use in practice.

Common patterns in VTs definitions

An examination of definitions used in VTs literature indicates⁴³⁵ that there is considerable overlap in the core definition, with some small variations in the specifics. In any case, from the analysis of literature, various common patterns emerge. This allows a VT to be defined⁴³⁶ as a socio-technical system, composed of individuals who are geographically and/or organisationally, or otherwise dispersed and who interact with one another using information technologies in order to accomplish common goals. In addition, frequently cited definitions describe VTs as cultural, professional, functional, and even nationality diverse. Shared and interdependent tasks and interdependence being a salient characteristic, with temporality and fluidity in the membership as variables also. A combination of these characteristics would define a particular team. This conceptualisation is coherent with current conceptualisations of VTs, as it does not limit the type of task, durability and the diversity of membership from a geographical or functional area. However, it does not cope with the idea of virtuality or virtualness. In this regard, Kirkman & Mathieu argue that classification schemes⁴³⁷ such as traditional, hybrid and virtual can be useful creating general descriptions and for exemplary purposes and state that instead⁴³⁸ of using deterministic definitions of virtual teams, it would be better to describe them using the continuum of virtuality. This idea of virtuality or virtualness is discussed further in 2.2.3.7.

The understanding of what is a VT encompasses the consideration of people working through different boundaries, in interdependent tasks, underpinned by technology, in the pursuit of a common goal. Arguably, salient aspects to add in this conceptualisation are that they are deemed to represent new patterns of interaction and, also that they encompass continuous dimensions as geographical spread and reliance on IT. Together with being considered salient aspects, arguably they also lack of suitable literature from academic's and practitioner's perspectives to allow a comprehensive understanding of them. This idea of continuous dimensions, as virtuality or virtualness is addressed next.

2.2.3.7 Virtuality or virtualness

Early in the 1960s, VT efforts⁴³⁹ involved little more than letters mailed through the postal service, telephones and travel to face-to-face meetings. Recent arguments have stressed that the line between calling a team conventional or traditional and one that is virtual is becoming⁴⁴⁰ increasingly blurred, because fewer teams are remaining co-located without any reliance upon technology for support or communication; and VTs may periodically meet face-to-face while undertaking tasks. Moreover, truly virtual teams⁴⁴¹, in the sense that they only ever 'meet' together through technology, are relatively rare. In practice, few VTs actually restrict⁴⁴² team members from meeting face to face. In this regard, although virtual teamwork is a current topic in the literature, it has been problematic to define what 'virtual' means across multiple institutional contexts.

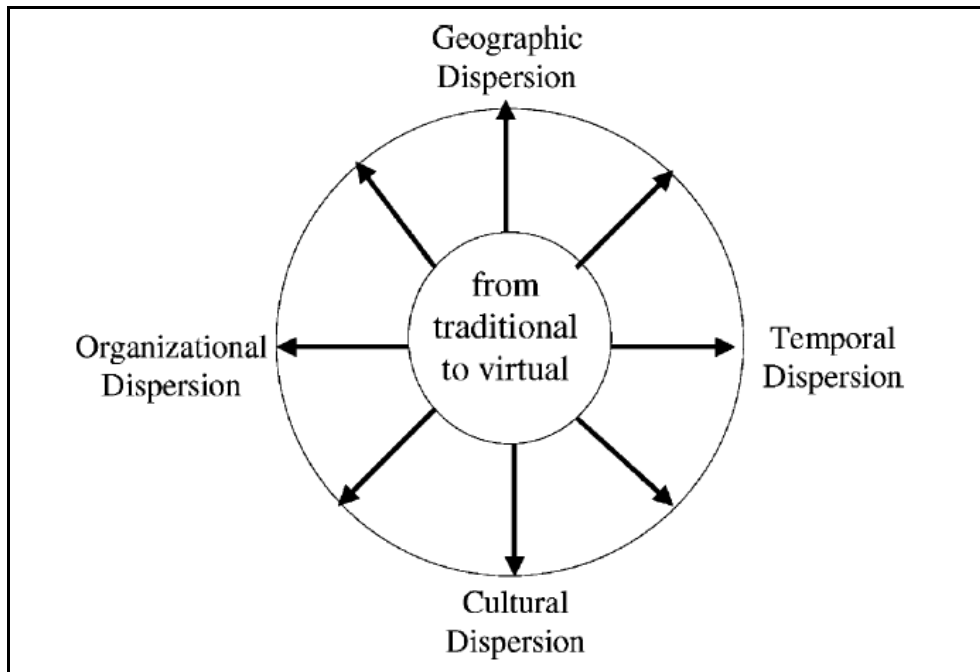
The word 'virtual' has become⁴⁴³ a compelling catchphrase to describe changes in work environments and, as such, is freely applied to many situations with many meanings. For example, the term virtual is often used to differentiate⁴⁴⁴ work environments where individuals are physically or temporally dispersed. Even though in broad terms, in the context of VTs, the attribute virtual designates⁴⁴⁵ distributed work that is predominantly based on electronic information and communication tools, it is argued that the word virtual often causes confusion⁴⁴⁶ and researchers have struggled with its definition.

Team virtuality, also known⁴⁴⁷ as virtualness, is an important factor⁴⁴⁸ that is gaining prominence in the literature on teams. However, despite the large number of publications, there is still some uncertainty⁴⁴⁹ in dealing with virtuality, as neither a common understanding nor consistent concepts of virtual organisation exist. Realising that substantial variance⁴⁵⁰ exists with respect to degree of virtuality among VTs within and across real organisations, the conceptualisation, measurement, and assessment of virtuality should help advance VT theory and research.

The term virtual has been used⁴⁵¹ to identify a variety of work form that differs from traditional work on numerous dimensions, such as the location of the workers, where and how work is accomplished; and the basis for relationships between workers and organisations and between organisations. For example, team virtualness has often been conceptualised⁴⁵² in the past as either geographically distributed (i.e. virtual) or collocated (i.e. face-to-face), although very few teams operate at one extreme or another. In a more elaborated perspective, by Jarvenpaa & Leidner, the concept⁴⁵³ of virtual implies permeable interfaces and boundaries. Meanwhile, Kirkman et al sustained that scholars have argued that the distinction⁴⁵⁴ between teams completely virtual or completely face-to-face is unrealistic and artificial; suggesting that instead, virtuality lies on a continuum ranging from highly to minimally virtual. Actually, at present most VTs operate in multiple modes⁴⁵⁵: either face-to-face, via electronic communication, interacting with each other directly, or sometimes working as individuals. In consistency with this view, some researchers have viewed virtuality as a continuum⁴⁵⁶, arguing that many teams in organisations today are characterised by dimensions of virtuality. Consequently, rather than

thinking of a team⁴⁵⁷ as either virtual or not, it makes sense to think of a team as existing on a continuum of virtuality, defined on different dimensions, such as geographic, organisational, temporal or cultural, among others (See Figure 2-6). From this perspective, virtuality⁴⁵⁸ of a team is one aspect among other team characteristics that broaden understanding about teamwork in general.

Figure 2-6 Most common dimensions of virtuality



Source: Zigurs, 2003

In relation to devising a taxonomy for virtuality or virtualness in VTs, literature shows different conceptualisations which encompass from simple measurable indicators to dimensions which only could be measured with a significant component of subjectivity. Some examples are viewed next.

A number of different dimensions for virtuality

A number of authors have argued different elements when conceptualising virtuality. From all the dimensions found in the literature, there was not a single taxonomy that prevailed.

Prasad & Akhilesh characterise VTs on the basis of the extent to which they are different from traditional teams through a degree of virtualness, which they suggest can be measured⁴⁵⁹ by how geographically dispersed the sub-teams are; the extent of media-richness of the communication technologies being used; the frequency of face-to-face meetings; the extent of diversity in cultures; the shared history of working together and the temporal nature of the team.

Griffith et al proposed three dimensions⁴⁶⁰ of virtualness: the percentage of work that the team does with its members distributed across time or space, the level of technological support used by the team and the distribution of the physical locations. Although suggesting three dimensions of virtualness, Griffith

et al measured team virtualness⁴⁶¹ as the time spent interacting with team members via various media and face-to-face locations.

Panteli, exploring the extent of diversity that may be experienced in VTs, presents three dimensions⁴⁶² as a non-conclusive typology of VTs: the level of continuity of the team, the degree of dispersion of the team and its relation to the organising firm.

Kirkman et al proposed three dimensions⁴⁶³ of virtuality: the proportion of time that team members work face-to-face compared to virtually, the proportion of team members at any one location and the proportion of time members devote to a virtual team compared to time spent on other duties. Further, Kirkman et al suggested three different dimensions⁴⁶⁴ of virtuality: the richness of the communication media used by members to accomplish tasks, and the extent to which members are distributed across space and time. This latter suggestion is presented in an investigation where the representation of virtuality was limited to the single dimension of the number of face-to-face meetings of teams. Subsequently, Kirkman & Mathieu (2005) proposed three dimensions⁴⁶⁵ of virtuality: the extent to which team members use virtual tools to coordinate and execute team processes, the amount of informational value provided by such tools, and the synchronicity of team member virtual interaction.

Staples and Webster (2008), building on previous research, suggest that different dimensions⁴⁶⁶ in team's virtualness result in varying degrees of dispersion and structural forms. Dispersion, being the extent to which a team is virtual, for example the number of members per site and the separation distance between sites. Structural forms then vary based on whether the team member resides at the same location as all of other team members, is the only team member at a particular location or, has some team members at her location and some at other locations.

Chudoba et al, drawing from the literature on virtuality, identified⁴⁶⁷ six discontinuities that captured distinctive aspects of the virtual teaming environment: geography, time zone, culture, work practices, organisation and technology. They crafted a number of items to capture each aspect in a virtuality index. In their study, Chudoba et al measured three dimensions of virtuality: team distribution, workplace mobility and variety of practices. The reason⁴⁶⁸ why some items were removed from the original index was redundancy or ambiguous association with the three dimensions of virtuality. In any case, they argued that the index⁴⁶⁹ could easily be used in research settings with other organisations because the items that comprise the index are congruent with general notions of what comprises a virtual work setting.

Gurtner et al (2007) assessed⁴⁷⁰ the level of virtuality with two dimensions which reflect those that are most often proposed in the literature: spatial distance, as the proportion of team members working in the same building as the respondent; and level of technological support as the proportion of email vs. face-to-face communication, without accounting for other communication media.

In summary, different dimensions are used in the relevant literature to conceptualise virtuality. All of the authors mentioned here present different elements which have similarities to some extent, which difficult to endorse an unambiguous or not redundant definition. Moreover, there was no predominance of any of these taxonomies.

Virtuality: no one fits all

Arguably, a team's extent of virtualness⁴⁷¹ may vary depending on the nature of the task, technological resources, and member's skills and capabilities. While the term 'virtual' may be⁴⁷² carefully and appropriately defined for each study, the different definitions limit the use of the finding in studies of other similar, but differently classified, work environments.

Although dispersed teams⁴⁷³ are not a new phenomenon, they are becoming more and more prevalent. Arguably, they allow organisations to attempt⁴⁷⁴ to maximise strengths, address threats and minimise weaknesses. In addition, there is evidence that large companies are adopting⁴⁷⁵ collaboration as a strategic tool that lead to new kinds of interdependency and may require some different management practices. In this regard, virtual teamworking is increasingly common, although its definition is difficult because it is an ample concept and the level of complexity of virtuality is diverse in the different perspectives available in the relevant literature. In addition, VTs utilise enabling hardware and software technologies which are evolving rapidly. In this regard, allegedly, the consideration of virtuality allows broadening understanding about teamwork in general and virtual teamworking in particular.

In the case of capability planning in the UK's MOD, addressed in the next subsection, the scope of employing VTs is associated with virtual team working seen as a socio-technical system, a system⁴⁷⁶ which possesses both a material technology and a social organisation (job specifications, management structure), and pursue common goals, instead of telework or network organisations merely. Subsequently, in order to conclude the present section concerning VTs in capability planning, subsections cover some aspects regarding VTs, such as the consideration of their context, tasks, benefits and challenges.

2.2.4 Virtual teams in Capability Planning

After considering elements of military capability planning work in 2.2.1 and discussed pertinent literature about VTs, in this subsection the general idea of the employment of VTs in capability planning is explored. Subsequently, elements pertaining to the relevance of context and task in VTs activity, as well as their benefits, challenges and barriers are drawn from the literature and discussed.

In the UK's MOD, virtual teamworking is employed in capability planning, by the MUC, to transit⁴⁷⁷ through activities from the development of a capability definition of the Capability Area for each CMG and CPG, to the prioritisation and resource allocation that allows the production of an endorsed CMP. This work is

executed through CMGs and CPGs, which are⁴⁷⁸ VTs i.e. teams with members located at different geographical sites. They employ different ways of working such as physical meetings and virtual team working supported by IT for facilitating communications, information storage and retrieval, and for supporting decision making. Moreover, they meet primarily by electronic means but occasionally meet physically. Arguably, this hybrid way of working has been adopted in order to overcome the geographical spread of team members and, at the same time, bring together all the different skills and perspectives required.

Within capability planning in the MOD, the scope for employing virtual teams is closely related to the idea of making use of IT facilitation to allow highly skilled people, from different MOD organisations, to work together in order to develop CMSs and CMPs. This cross-functional modality allows team members to belong to a CPG and, at the same time, to continue working in their original organisation. In this way, they can interact with other skilled people from other organisational areas or specialities, bringing a much more significant input to the VT, in order to⁴⁷⁹ support informed and efficient decision-making. For this reason, the team needs⁴⁸⁰ to have access to relevant information and individual members need to be empowered to make decisions.

The underpinning idea⁴⁸¹ of the capability sponsor is that it should operate in capability terms and should not serve single-service agendas. However, for many military officers serving there, their next appointment and possible promotion depends⁴⁸² on their home service. An officer thinking of a change in capability⁴⁸³ that would damage that home service or even a particular branch of a service must also consider the impact of such a choice on his or her career. On the other hand, the fact that defence resources⁴⁸⁴ are relatively fixed and increasingly scarce means that competition for resources is inevitable amongst organisations and sub-organisations staffed by people who believe in the importance of what they do. Arguably, some changes should be considered⁴⁸⁵ at least in the personnel sections of the armed forces to allow Equipment Sponsor staff in particular to act as well as think in capability terms without having to worry about the impact of such behaviour on their career prospects.

Arguably, here it can be seen, on the one hand, the theoretical organisational dilemma, reconciliation between individual and organisational purposes, in the capability planning arena; and, on the other hand, the criticism about cross-functional teams regarding the allegiance to their home organisation; and, potentially, the issue of the interference with functional boundaries. However, in the context of capability planning activities, this could be understood as a phenomenon affecting not only military officers as it is argued, but also civilian members as well.

To sum up, the capability planning process is streamlined and the consideration of the authoritative guidance available suggests that it would be clearly signalled who is responsible for adding what, and at what stage, and what would be the roles in information processing. Even if this were true, strong tensions risk biasing the outcomes of this process and, consequently, the quality of the decision-making. Therefore, given the relative fragility of the CPG

construct, it is important to be cautious in using new working practices such as VTs as they may result in an even poorer construct. Consequently, it is valuable to deem the benefits, challenges and barriers associated with VTs as they must be carefully considered when virtual teamwork approaches are endorsed. This is the aim of the next subsection.

2.2.5 Inside virtual teams: Benefits and challenges

Consistent with VTs's general literature discussed so far, literature on the benefits and challenges of VTs is inconsistent in the sense that neither a common understanding nor consistent concepts can be found. Arguably, the same phenomena recurred to explain this uncertainty that has been demonstrated about the conceptualisation of VTs applies to its benefits or advantages, and challenges, disadvantages or barriers. This has to do with the diverse nature of VTs forms, objectives, membership criteria, organisational affiliations, task types and so on. Furthermore, the distinction between advantages versus disadvantages is also blurred because, arguably, challenges can act as advantages or benefits in one context or under a given management and, conversely, they can be disadvantages in another.

Arguably, the complexity⁴⁸⁶ of the issues that VTs deal with is a key variable in their nature that influences and shapes all other criteria. In this regard, according to Duarte & Snyder, VTs can be much more complex⁴⁸⁷ than traditional teams because of two primary reasons: they cross boundaries related to time, distance (geography), and organisation; and they use electronic technological means to communicate (share information) and collaborate (work together to produce a product). In addition, the extreme range of differences⁴⁸⁸ in types of VTs, their tasks, and the context in which they operate makes it very difficult to develop 'simple checklists' that could apply across the board.

Virtual teamworking would appear to have some benefits but, it should be recognised that they come at a cost. VTs⁴⁸⁹ are not better or worse than conventional teams; like other teams, they face challenges and barriers. Despite the potential benefits of VTs, current literature⁴⁹⁰ suggests that virtual teamwork is rife with complex challenges. Therefore, given the challenges associated with VTs, the payoffs⁴⁹¹ need to be substantial for an organisation to embrace this relatively new way of working.

Although for some authors there are vast benefits of VTs justify their implementation⁴⁹² in business organisations, there is always the potential for problems when there is a reduction in the amount of formal or informal contact. As an example of this difficulty, it is pointed out that nonverbal communication⁴⁹³ can account for as much as 60 percent of the message conveyed by an individual.

Even though VTs face formidable challenges, in large part precipitated⁴⁹⁴ by the paradoxical assumptions underlying their creation, many disadvantages of VTs that are suggested by experimental research with ad hoc teams seem to diminish⁴⁹⁵ when a longer temporal scope is taken into account. In any case, some clear emerging patterns⁴⁹⁶ suggest that VTs have some very significant

advantages, and that they can be powerful and appropriate ways to get the work done.

2.2.5.1 Context in VTs

Zigurs suggests that VTs operate in all sorts of contexts⁴⁹⁷, but it is typically expected that speed is of the essence. In this regard, Kirkman & Mathieu argue that contextual features⁴⁹⁸ refer to the larger system within which teams are embedded, suggesting that contextual features that lead team members to employ more virtual means of coordination than they might otherwise, would be: the number of boundaries crossed, the proportion of co-located team members and team size. Moreover, Jarvenpaa et al maintain that structural strength⁴⁹⁹ varies by the level of uncertainty or ambiguity present in which a team operates. Furthermore, Drouin et al suggest that structural factors⁵⁰⁰ provide the conditions that shape the context in which a VT operates, influencing the team's communicational and relational processes, as well as its overall management methods. In addition, according to Prasad & Akhilesh, contextual aspects of VTs reflect⁵⁰¹ the degree of virtualness, concept that was discussed previously in 2.2.3.7, and that teams have to properly adapt to this increasing virtualness.

One of the problems⁵⁰² with virtual work is that electronic interaction eliminates much of the work context. Therefore, a major consideration⁵⁰³ for VTs should be how much contextual information people need to work effectively, and how much of that information can be communicated across time and distance. In addition, it is argued that complexities that typically⁵⁰⁴ arise from several issues and the lack of opportunities for the team to address these issues because of their nature, distinguishes VTs from traditional teams. In any case, Hinds & Mortesen suggest that a shared context⁵⁰⁵ exists when team members have access to the same information and share the same tools, work processes and work cultures. Although it is nearly impossible to provide distributed teams with identical contexts⁵⁰⁶, standardisation of work processes, tools and systems might reduce the extent to which distance become a burden.

In general, real-world teams are embedded in an organisational context⁵⁰⁷, which should be even more important the higher the virtuality of a team. In this regard, a meta-analytical review of VTs literature revealed that few studies⁵⁰⁸ have actually taken into account the organisational context. This situation highlights the relevance of what is sustained by Hertel et al in the sense that a careful integration of team members into the organizational context⁵⁰⁹ is particularly important for VTs; although it is recognised that empirical research is needed to explore this systematically.

2.2.5.2 Task in VTs

Many scholars of group behaviour have argued that the nature⁵¹⁰ of the task plays an important role in a group's interaction process and performance. According to San Nicolas-Rocca et al, three main components⁵¹¹ comprise the VT environment: the VT itself, the group support systems and the task to be performed. Arguably, the vast majority of studies⁵¹² have been accumulated for 'generating' tasks, many of them exploring advantages of electronic

brainstorming systems, which would lead to higher performance compared to face-to-face group brainstorming. Conversely, another typical task⁵¹³ for which electronic support systems have been developed are 'decision' tasks which would be inferior in computer-mediated groups compared to face-to-face groups. In this context, it has been deemed relevant to consider task's classification, interdependence, and design.

Task classification

Some classification typologies for tasks and their complexity are available from the literature on support systems and VTs. According to Zigurs & Buckland, task classification schemes can be summarised distinguishing four conceptualisations⁵¹⁴ as: behaviour description, ability requirements, 'qua' tasks, and as behaviour requirements. They argue that the first and second perspectives are not helpful for advancing research about group tasks. Instead, they suggest⁵¹⁵ that 'task as behaviour requirements' integrates the latter two conceptualisations, focusing on the task as presented to the group, and simultaneously acknowledging that those characteristics define both what is to be accomplished and how it is to be accomplished. In addition, the complexity level⁵¹⁶ of a task, which is one characteristic of task that has been studied the most, has been put forward as four dimensions or complexity attributes: outcome multiplicity (more than one desired outcome for a task), solution scheme multiplicity (more than one possible course of action to attain a goal), conflicting interdependence (where adopting one solution scheme conflicts with adopting another possible solution scheme) and solution scheme / outcome uncertainty (when there is uncertainty about whether a given solution scheme will lead to a desired outcome). Further, task complexity⁵¹⁷, according to Kirkman & Mathieu, can range from pooled interdependence, in which team effectiveness is essentially the sum of the members' contributions; sequential interdependence, where a member's outputs are the inputs of another; reciprocal interdependence, where work is passed back and forth between members; and intensive interdependence, where members work in real time with one another and place pressures on them to continuously maintain situation awareness, monitor each other, balance workloads, and execute back-up behaviours. Finally, based on the four complexity attributes, Zigurs & Buckland categorised⁵¹⁸ tasks as: simple tasks, primarily characterised by a single outcome and solution scheme; problem tasks, by solution scheme multiplicity; decision tasks, by outcome multiplicity; judgement tasks, by conflicting interdependence or uncertainty; and fuzzy tasks, primarily by the joint presence of outcome multiplicity and solution scheme multiplicity. Although this model is criticised⁵¹⁹ because it has never been operationalised or tested in a VT environment. For Mitchell & Zigurs, fuzzy tasks⁵²⁰ are the highest in complexity and uncertainty with respect to all aspects of the task, facilitation and the process structure that accompanies it were important factors for success in fuzzy tasks.

Task interdependence

When teams are virtual⁵²¹, their temporary and lifecycle characteristics are influenced by the level of team task interdependency. Task interdependence is

understood as the degree to which team members rely on one another and must interact⁵²² in order for the group to accomplish its work. Working together often involves interdependence⁵²³, and people must, therefore, depend on others in various ways to accomplish their personal and organisational goals. At the group level, task interdependence⁵²⁴ is defined as the extent to which group members are dependent on one another to perform their individual tasks due to the structural relationship between team members and the nature of the task. Teams whose missions involve intensive interdependencies tend to work synchronously and have relatively long-term assignments. Teamwork in VTs, particularly, implies interdependence⁵²⁵ among members in accomplishing their common goals, because of the distributed nature of the work and working conditions.

Each type of task interdependence⁵²⁶ sets a different communication requirement among collaborators. In this regard, the general thesis is that the more complex the task⁵²⁷, the richer the communication medium must be in order for the team to handle it successfully. Complex tasks coupled with specialisation suggest high levels of interdependence. High task interdependence⁵²⁸ is created when team members have to coordinate their activities frequently so that the performance on one member strongly affects the work process of other team members. High task interdependency⁵²⁹ can increase process losses and conflicts within the team due to coordination needs and opportunity costs. Arguably, the demands of an intensive interdependent task⁵³⁰ will require the use of less virtual interaction between team members, consequently, as the level of task complexity increases, team virtuality would decrease. In addition, it is agreed that when task structure moves⁵³¹ from pooled and sequential, to reciprocal, the level of interdependence increases, making collaborative parties more reliant on each other in order to do their job.

Task design

The distance that virtual work creates may be managed⁵³² through structural mechanisms such as the design of work and the criteria for performance evaluation; and through relational mechanisms such as the creation of trust between virtual employees and their interaction partners, and by ensuring that virtual workers remain connected with respect to important information that may affect their careers. In this regard, Lurey & Raisinghani suggest that VTs require more structure⁵³³ to perform their work. Moreover, team work processes and structures⁵³⁴ should be clearly specified to VT members to encourage trust. Arguably, when work processes are established⁵³⁵, then some of the uncertainties are removed since the team members will have rules and regulations that all are to follow. Furthermore, the teamwork processes- trust relationship⁵³⁶ was found to be stronger for VTs than co-located teams, suggesting that work structure is more important in VTs.

Research on work practices suggests that a well-designed⁵³⁷ team task is part of an enabling structure for a work team. Well-designed team tasks⁵³⁸ are whole and meaningful pieces of work that stretch member's skills, provide ample autonomy for doing what needs to be done to accomplish the work, and generate direct and trustworthy feedback about results. In this regard, task-

related processes⁵³⁹ include those that facilitate communication and coordinate work among members, as well as those that ensure team members are fully contributing. Accordingly, Raghuram et al argue that it is inadequate⁵⁴⁰ to focus only on information technologies when designing virtual work programs and there is merit in examining structural and relational facets as well.

Clutterbuck argues that achieving the task⁵⁴¹ is largely a matter of goal clarity, and both recognising and sticking to priorities. In this regard, task dimensions⁵⁴² of teams refer to how members relate to the work at hand and how the work will be accomplished. Consequently, team members need⁵⁴³ very clear direction and an opportunity to explore what the task means, both individually and collectively.

Bell & Kozlowski argue that most VTs cross functional, organisational, and/or cultural boundaries, and the permeability⁵⁴⁴ of those boundaries depends on the nature of the tasks the team performs it and varies across different types of VTs. Moreover, they sustain that where a VT lies on the distinguishing dimensions is largely determined by the complexity of its task. Furthermore, a VT task will require specific behaviours⁵⁴⁵ amongst team members to be completed successfully. In addition, Griffith et al maintain that teams with a higher degree of virtualness⁵⁴⁶ have a greater likelihood of enacting an independent approach to their tasks and, therefore, are expected to have less shared understanding of these tasks than less virtual teams. In this regard, for tasks that have demonstrably correct answers and relationships among team members with low likelihood of future interaction, availability⁵⁴⁷ of visual nonverbal information may be more of a distraction; auditory cues may be sufficient to enhance comprehension. Conversely, as argued by Burgoon et al, tasks involving ambiguity, judgement tasks, collaborative work and circumstances requiring efforts to manage issues, and relational work⁵⁴⁸ may require proximity and fuller access to the full gamut of audiovisual nonverbal cues.

In summary, the task charged to a team can vary widely in complexity⁵⁴⁹, from the least complex pooled/additive; to the most complex form of interdependency, intensive, when work involves diagnoses, creation and/or problem solving that require simultaneous team involvement. Bell & Kozlowski conceptualise task complexity⁵⁵⁰ as a continuum ranging from low to high complexity, with low complexity tasks usually structured by an additive/pooled or sequential workflow arrangement; and more complex tasks increasingly more dynamic, with more tightly coupled external linkages and, with greater levels of synchronous collaboration and information sharing among team members. On the one hand, less complex tasks⁵⁵¹ can be handled using more pooled/additive and sequential workflow arrangements. On the other, when a task is more complex⁵⁵² collaboration and integration between members is critical, making it more difficult to introduce new team members and more detrimental when existing team members leave. Then, the more complex⁵⁵³ the task, the higher the demand will be among team members in carrying out the task. In the case of VTs, the complexities of tasks⁵⁵⁴ warrant using all members to understand the whole. The tasks of CPGs fall into the latter, a more complex category as

argued by Burgoon et al, involving ambiguity, judgement and requiring to manage issues.

2.2.5.3 Benefits

As suggested in 2.2.5, literature on benefits of VTs is context related. Accordingly, after discussing the pertinent literature available on context and task in VTs, it can be argued that perspectives on benefits or advantages is influenced, sometimes greatly, by contextual antecedents where VTs have been considered. In broad terms, some of the immediate advantages⁵⁵⁵ to the use of virtual team working are the use and development of streamlined organisations, relatively small start-up costs and spatial independence. Also, a positive aspect⁵⁵⁶ is that communication technology can provide the opportunity for equal participation of every member of the team. The following represent some of the reasons for embracing VTs⁵⁵⁷ found in the literature:

- It is needed to be closer to the customer to respond to customer needs.
- As the amount of information expands exponentially, there is a need to bring diverse talents and expertise to complex projects and customize solutions to meet demands.
- Dispersed teams can leverage the organisation's expertise by putting people together on projects without relocating them.
- Technology advances have made VTs possible with surprising results.

In addition to that, used effectively, virtual teams can realize significant benefits⁵⁵⁸:

- Teams can have members who might not otherwise be available because of a lack of proximity.
- Membership can also remain fluid and changeable, because there is no relocation lag time or cost.
- Advantages to using a shared database, which can then become a major organiser for the team.
- The somewhat anonymous nature of participation may minimize any political barriers that arise from fear of repercussion or domination of the group's process.

Productivity

From the outset, it is argued that VTs increase⁵⁵⁹ productivity and profitability. Firstly, team members and other VTs can work in parallel rather than serially⁵⁶⁰, thus speeding up project completion. In addition, teams located around the world have the advantage⁵⁶¹ of spending 24 hours a day on a project, in 'following-the-sun' workdays, facilitating⁵⁶² a near continuous working cycle. Furthermore, because VTs have access to specialised expertise across

geographical boundaries, they are poised⁵⁶³ to develop better-informed and more creative solutions to complex, often global organisational problems.

In short, Townsend et al argue that the combination⁵⁶⁴ of a dynamic structural configuration, optimal member makeup, and flexibility in thinking about and performing work gives VTs the productivity potential to outperform traditional teams.

Flexibility to pool knowledge, skills and perspectives

Nevertheless, it is sustained that the main benefit of VTs is to allow organisations to be more flexible and procure talent⁵⁶⁵ from different functions, locations, and organisations without geographical restrictions. In this regard, team forming⁵⁶⁶ plays a significant role in the success of a VT, as team members can be formed from practically anywhere. Moreover, VTs provide organisations with the flexibility⁵⁶⁷ to draw on knowledge, skills, and perspectives that might not be available for on-site collaboration. VTs provide easier access⁵⁶⁸ to experts and other sources of information, pooling⁵⁶⁹ the talent and expertise of employees regardless of their location, overcoming time and distance barriers. In this way, people can be recruited for their individual competencies⁵⁷⁰ and not just their physical location. Then, teams can have members who might not otherwise be available⁵⁷¹ because of a lack of proximity. Accordingly, organisations can expand⁵⁷² their labour bases and or appoint/hire the best people regardless of their location. As a virtual employee can easily serve on multiple teams⁵⁷³, geographic location is no longer a criterion for team membership. In addition, members of VTs will have access⁵⁷⁴ to a potentially greater base of knowledge through their individual team members than collocated teams. Consequently, VTs can be used⁵⁷⁵ to collect and combine diverse information and knowledge from different locations, and thus enhance the organisational ability to learn and innovate.

Even though VTs allow organisations to access⁵⁷⁶ expertise regardless of where it may be located, it is important to note that these benefits are not guaranteed. There is a possibility⁵⁷⁷ of gathering members concerning primarily their qualities, knowledge, skills and expertise. But, at the same time, members may not know each others; they may come from different socio-cultural milieu, and consequently have different value systems, norms and behavioural rules which are characterised by their own culture.

It is claimed that VTs create a pool of talent⁵⁷⁸ that would be unavailable to a company if the management insisted on conducting businesses through face-to-face meetings. This 'pooling' allows to access expertise without the experts needing to move to contribute to a team. In this way, individual talent and abilities⁵⁷⁹ can be mutually employed for the benefit of the entire organisation. Moreover, this pooling of resources within the team allows it to develop new resources called idiosyncratic⁵⁸⁰ resources, which have little or no value outside the context of the team, consisting of both tangible and intangible features. The totality⁵⁸¹ of complementary resources provided by the team members allow the team to produce outcomes unattainable to a team member working in isolation. Furthermore, VTs enable organisations to pool the talents⁵⁸² of their own

employees, and employees of trading partners and consulting firms, to meet the demands of today's hypercompetitive global environment.

More flexible, adaptable and responsive organisations

VTs allow organisations to become⁵⁸³ more flexible, adaptable, and responsive by enabling them to cross boundaries of space, this characteristic become increasingly more critical as the task a team performs become more complex. Moreover, distinctive capabilities of VTs are overcoming traditional organisational barriers⁵⁸⁴, such as cost, location, time, space, and lack of talents and expertise; in order to facilitate collaboration between different functions.

VTs enable⁵⁸⁵ organisational, individual and task flexibility. Firstly, VTs allow an organisation to create teams on an as-needed basis. Secondly, The VT can offer increased flexibility, responsiveness and diversity of perspectives. Moreover, membership⁵⁸⁶ can remain fluid and changeable, because there is no relocation lag time or cost.

Information and communications technologies enable efficiency

Communication and information technologies can be, increasingly, a significant enabler of VTs. As the cost of modern networking technologies falls, VTs are becoming increasingly more appealing to organisations. In addition, VTs can capture, organise and store⁵⁸⁷ their learning electronically, making it easier for them and others to access that knowledge. Moreover, team communications and reports can be made available online⁵⁸⁸, and can be accessed at any time and from any place, which makes for more effective and efficient use of team resources. In this regard, common databases, documenting team activities, allow newcomers more quickly to be brought up to speed and team members can stay current independently, reviewing meeting logs. Also, since communication⁵⁸⁹ in VTs is very fast and efficient it is easier to get information where it needs to be, to communicate across organisational boundaries, and it is easier to spread best practices among workers.

VTs benefit of reduced costs⁵⁹⁰, entailing savings in time and money. Travel is expensive not only in airfare and hotels but also in lost work time. With VTs travel, lodging, parking, and leasing / owning building space are expenses that can be eliminated or minimised. On the one hand, the significant expenses associated with accommodation, travel, various daily allowances, and even downtime costs may be reduced and even eliminated as VTs communicate via technology. Also, VTs decrease expenses of office spaces due to an increase in work flexibility. As a result, there are decreasing ecological problems and increasing utilisation of employee time with economic benefits for individuals and organisations, and environmental benefits for all.

Equality and equity

The somewhat anonymous nature of participation may minimise⁵⁹¹ any political barriers that arise from fear of repercussion or domination of the group's process. Arguably, VTs create an environment that promotes equality and equity⁵⁹² among members, because the performance management of the

employees is primarily based on their productivity as opposed to other attributes. Moreover, in a virtual work environment, physical disadvantaged employees gain easier access⁵⁹³ to the virtual workplace than to a physical office. Then, it becomes easier to hire and utilise people with disabling⁵⁹⁴ conditions.

In traditional teams, cultural, individual and personality differences⁵⁹⁵ create their own sets of tensions. But, in the case of VTs, because team members operate remotely⁵⁹⁶ from their manager and from each other, the traditional social and cultural norms are not available for influencing team members' attitudes and encouraging cooperative behaviour.

Flexible work arrangements

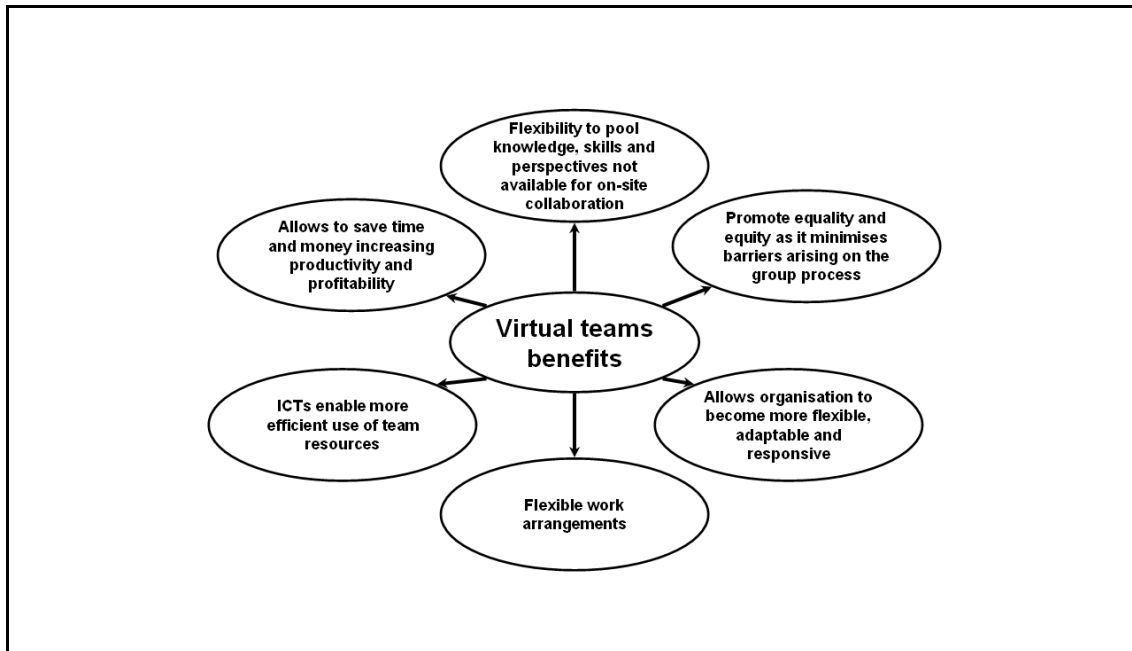
Flexible work arrangements⁵⁹⁷ can be better delivered with VTs, this enables the organisation to attract a larger pool of qualified candidates and retain key talent that need or prefer this work option. As a consequence, team members typically have increased⁵⁹⁸ freedom in their schedules and are not necessarily confined to a traditional workday or workplace. As formation of teams does not depend on the location⁵⁹⁹ of members, employees can work⁶⁰⁰ from any place at anytime. In this way, employees find that it is easier to maintain a healthy work/home life balance⁶⁰¹. Then, there is an increased employee⁶⁰² job satisfaction and commitment. In addition, it is easier for employees to move⁶⁰³ from one project to another as needed. Then, it is much simpler⁶⁰⁴ for employees to be contributing members of more than one team at a time. This would allow an organisation to maximise⁶⁰⁵ the use of a team member with a particular skill, by having him or her serve on several teams at once, increasing⁶⁰⁶ speed and flexibility in response to demands. In this way, also it is allowed cross-pollination⁶⁰⁷ of ideas, knowledge, and specialisation between cultures as well as business units. As a consequence it is facilitated a reduction⁶⁰⁸ in overheads and labour costs and improved resource utilisation.

Arguably, because VTs are diverse and heterogeneous, these teams are much more powerful and effective structures⁶⁰⁹ compared to traditional team structures influenced by time and place, because diversity helps engender creativity and originality among virtual team members. Furthermore, members are more likely to engage in creative, 'out of the box' thinking⁶¹⁰ because they are freed from the organisational routines, power relationships, and communication interactions that constraint their thinking and action. In this regard, potential advantages⁶¹¹ of VTs are that they can create culturally synergistic solutions, enhance creativity and cohesiveness among team members, promote a greater acceptance of new ideas and, hence, provide a competitive advantage.

In summary, the number of potential benefits of utilising VTs that can represent advantages to organisations as well as individuals, is sketched in Figure 2-7. However, the benefits commented here are not universal to VTs. Although they depict a contemporary perspective emerging from the pertinent literature available, because of characteristics of VTs already discussed upon, the

diversity of contexts where they can operate will be determinant of the benefits that apply, and to what extent, in a particular situation.

Figure 2-7 Virtual teams benefits



Source: Author

2.2.5.4 Challenges

As for the benefits, perspectives on VTs' challenges are influenced, sometimes greatly, by contextual antecedents where these teams have been considered. Although VTs have many significant advantages, there are some important drawbacks⁶¹² and disadvantages as well. Despite the relevance gained by VTs, little attention⁶¹³ has been directed toward understanding their potential problems and challenges. In any case, through data is hard to come by⁶¹⁴, human resources managers whose firms have VTs say there is no question about their value.

Controversial views are maintained about differences between VTs and face-to-face teams. Although early theorists and system designers conjectured that any losses⁶¹⁵ in available non verbal information and reliance exclusively on the verbal channel, would have deleterious effects, that view has given way to recognition that humans are capable of adapting and compensating for deficits in a given communication mode. Even though, according to literature, there are no significant differences⁶¹⁶ in decision quality between VTs and other teams; VTs would require⁶¹⁷ more management and training than face-to-face teams. However, conversely, Hollingshead & McGrath conclude⁶¹⁸ that decisions made by computer-mediated teams are inferior compared to face-to-face teams because they take longer, less information is exchanged per unit of time, and the satisfaction of team members is rather low.

Stanley et al argue that the management implications of virtual teaming are significant⁶¹⁹ and that there are potential problem areas; pointing out ten potential issues when there is a reduction in the amount of formal/informal contact within the ranks of the workforce. Anyway, according to Henry & Hartzler, significant challenges and barriers⁶²⁰ must be overcome:

- The lack of relationship and trust may lead members to work to their own advantage rather than the team's.
- Isolation, loneliness, and the feeling of disconnectedness can erode energy and lessen team commitment.
- Misinterpretations and misunderstandings may be heightened, and individual interpretations can create situations where team members unknowingly do their own thing rather than promote the team's agenda.
- Language, culture, and style differences may be accentuated because body language, subtle tones, and facial gestures cannot be used to add to the spoken word.

Converting individual skills into interdependent work

Social and managerial challenges now represent the major hurdles⁶²¹ to successful adoption of this new organisational form. A major problem for temporary VTs is converting⁶²² the individual skills and efforts of strangers into interdependent work products in a short period of time while using computer-based communication technologies to coordinate their work. In any case, there is agreement in the fact that one of the major obstacles⁶²³ to overcome when using computer-mediated communication is the lack of personal interaction. This situation leads to a loss of context⁶²⁴, which can generate feelings of isolation and undermine trust.

It appears that the major difficulties⁶²⁵ with VTs have to do with the fact that being distributed and not-collocated may lead to difficulties with things like relational communication and trust, as well as with outcome problems like decreased productivity and work quality. Those difficulties have to do with the lack⁶²⁶ of physical interaction – with its associated verbal and nonverbal cues – and the synergies that often accompany face-to-face communication. Arguably, these deficiencies⁶²⁷ raise issues of trust. The interactions in virtual teamwork usually offer lower levels of social presence⁶²⁸ and information richness than face-to-face meetings. When team members are geographically distant and rely on mediating technologies to interact, information⁶²⁹ may flow less easily between workers, diminishing the development of a common understanding of the information that is shared causing worst assumptions of distant team members. In addition, VT members may feel isolated and lonely as they work on their tasks. In this regard, it is deemed as another potential disadvantage the psychological and emotional distance⁶³⁰ between team members, determined by factors like geographic and time zone differences, culture, organisational differences, degree of task interdependence, prior relationships and social

distance. Few people choose to work in VTs⁶³¹ and often, only a critical business issue will force people to collaborate in such a way.

Overcoming lack of personal interaction

Some employees may be unsuited psychologically⁶³² to work entirely in a virtual space; thus VTs are not always seen as ideal for many employees; consequently, such employees require extensive training and support if they are to be engaged, even partially, as a member of a VT. Workers may also find it difficult to abandon a familiar working environment⁶³³ and face the challenges. There is a possibility of an increase in stress⁶³⁴ among the team members because the line between home and work life pales. Moreover, VTs may not be an appropriate tool for every organisation⁶³⁵, because the virtual structure may not fit the operational environment. In this regard, VTs possesses aspects of structural mechanisms and dynamics⁶³⁶, stemming from people and technology involved that can be detrimental to its success, which may include lack of physical interaction / proximity among members and lack of members' dispositions. In this regard, in a consultant's survey in 2010, the greatest VTs challenge⁶³⁷ was inability to read non-verbal cues, followed by absence of collegiality, and difficulty establishing rapport and building trust.

Balancing VTs demands with other priorities

Additionally, a challenge arises from the struggle to balance⁶³⁸ VT demands with home office priorities. There are situations where members can deviate from team's objectives. On the one hand, Misinterpretations and misunderstandings can create situations where team members unknowingly do their own thing⁶³⁹ rather than promote the team's agenda. Also, the lack of relationship and trust may lead members to work to their own advantage⁶⁴⁰ rather than the team's. As an example, Bullock & Tucker show that the most challenging barrier⁶⁴¹ emerged in VTs in PepsiCo was the team's need to manage the ongoing accountability of their day jobs.

Communicating and coordinating work

Communicating and coordinating work⁶⁴² across time and space can be another significant challenge for VTs. VTs must overcome⁶⁴³ language and cultural barriers, coordination problems, and technology infrastructure problems. The complexities and subtleties⁶⁴⁴ of dealing with widely different personalities, cultures, and languages make communication far more difficult among VT members. In this regard, VTs can have difficulties in relation to interpersonal concerns⁶⁴⁵, such as establishing effective working relationships with team members in the absence of frequent face-to-face communication. The very nature of the electronic exchanges within VTs may be a source of conflict⁶⁴⁶, when the level of information richness is low because of a lean medium of communication. Given the separation in time and space, the possible absence of a shared work history⁶⁴⁷, and the limited options of communication channels, working in VTs settings can possibly be disastrous.

Arguably, virtual organisations are currently lacking the social binding created via frequent face-to-face contacts with peers. VTs seem to experience

difficulties⁶⁴⁸ in communicating and exchanging information. On the one hand, one communication problem⁶⁴⁹ that VT members face is 'awareness deficit' – the lack of knowledge about the current state of distant teammates' work related to the group project. On the other, the lack of 'media richness'⁶⁵⁰ increases the likelihood of the communication being misunderstood. For example, when a person cannot see another person's body language⁶⁵¹, he or she needs to be even more attentive to who is speaking and tone of voice. Thus, organisation systems must be aligned⁶⁵² to support VTs, in order to avoid conflicts that will undermine trust, weaken project commitment and damage open communications.

Overcoming technological problems

Evidence indicates that there are a number of technological⁶⁵³ problems ranging from unreliable systems and incompatible networks to slow computers and traffic congestion during certain times of the day. In addition, most equipment and software has been designed for a conventional office⁶⁵⁴, taking for granted features of the conventional working environment, so when used in a VT environment, they can cause considerable difficulties for the organisation and people involved. In this regard, identifying, learning, and using technologies⁶⁵⁵ more appropriate for certain tasks is another challenge for VTs. Information technologies⁶⁵⁶ are proposed as a bridge that enables team members to operate across time, distance, culture and other potential divides. Although new technologies help members to socialise⁶⁵⁷, it is unclear whether these technologies serve as substitutes for face-to-face social interaction. On the one hand, technology provides a means⁶⁵⁸ to communicate and enhance the ability of the team to complete a project, although the type of technology does not contribute to team success. However, technology cannot substitute⁶⁵⁹ for face-to-face knowledge sharing where the knowledge being shared is confidential or sensitive in nature, regardless of how secure the information and communication technology is designed.

An additional complication is posed by the fact that it is much easier to hide errors and problems⁶⁶⁰, sweep misunderstandings under the rug, and make erroneous assumptions. Moreover, in VTs, reliance on electronic communication can promote⁶⁶¹ free riding and lack of commitment because members do not have to 'face' one another, which make members of VT more vulnerable than co-located teams.

Arguably, selecting the appropriate technologies and services⁶⁶² is difficult and maintaining and upgrading systems demand considerable expert time and extra investment. The cost of setting up and maintaining⁶⁶³ the expensive hardware and software necessary to support VTs is not insignificant and might even be prohibitive for some organisations. Also, organisations using VTs must⁶⁶⁴ not only secure resources to invest in such technologies and networks, but must also recruit talented technical support staff to maintain that technology and train members in its use. Skilled support staff are necessary⁶⁶⁵ to ensure that networks and servers are functioning, company databases are continually being updated, and technology training is available for VT members. Providing adequate technological support to VTs has been very difficult⁶⁶⁶, especially

because new technologies and services are being rolled out constantly and people's expectations are high.

A related difficulty arises from a potential general lack of knowledge among employees about the higher level technological applications related to virtual teaming⁶⁶⁷, taking into account that even computer-savvy employees may not possess sufficient prerequisite knowledge to meet the technological demands within a VT. This is particularly true, when it is taken into account the lack of expertise in those technological applications⁶⁶⁸ among some mature senior manager as opposed to younger generations of employees which use computers and allied technologies as a way of life.

Managing team heterogeneity

The need⁶⁶⁹ to manage teams heterogeneity, use technology efficiently, and develop trust among the members are some of the challenges. Arguably, from the management perspective, it is difficult to manage people⁶⁷⁰ who must work collaboratively and interactively but may not ever actually lay eyes on one another. In VTs, difficulties⁶⁷¹ can arise in terms of supervision of team members' activities and prevention of unproductive developments in time, along with additional costs for appropriate technology, issues of data security, and additional training programs.

It is suggested that learning how to handle the technology and dealing with different cultures poses the biggest challenges⁶⁷² in VTs. In this regard, according to Duarte & Snyder, there are three types of culture⁶⁷³ that can affect a VT: national, organisational and functional. In their perspective, each team member bring his or her culture, and as the team evolves, the unique blend of team members' national, functional, and organisational culture create a unique team culture. Arguably, disadvantages⁶⁷⁴ to VTs are cultural nuances of operating globally, role ambiguity, and the difficulty in the interpretation of decisions via virtual means. Moreover, because of the cross-functional nature⁶⁷⁵ of these teams, group members who are unfamiliar with each other may have different language norms based on functional area expertise and may lack shared patterns or routines for dividing tasks, coordinating work, handling conflict, and formulating rules. In addition, language, culture and style differences may be accentuated⁶⁷⁶ because body language, subtle tones, and facial gestures cannot be used to add to the spoken word. Other barriers include the perceived disruption of VTs to corporate culture⁶⁷⁷ and the loss of employee's loyalty, especially in VTs involving people from different organisations.

Develop trust among members

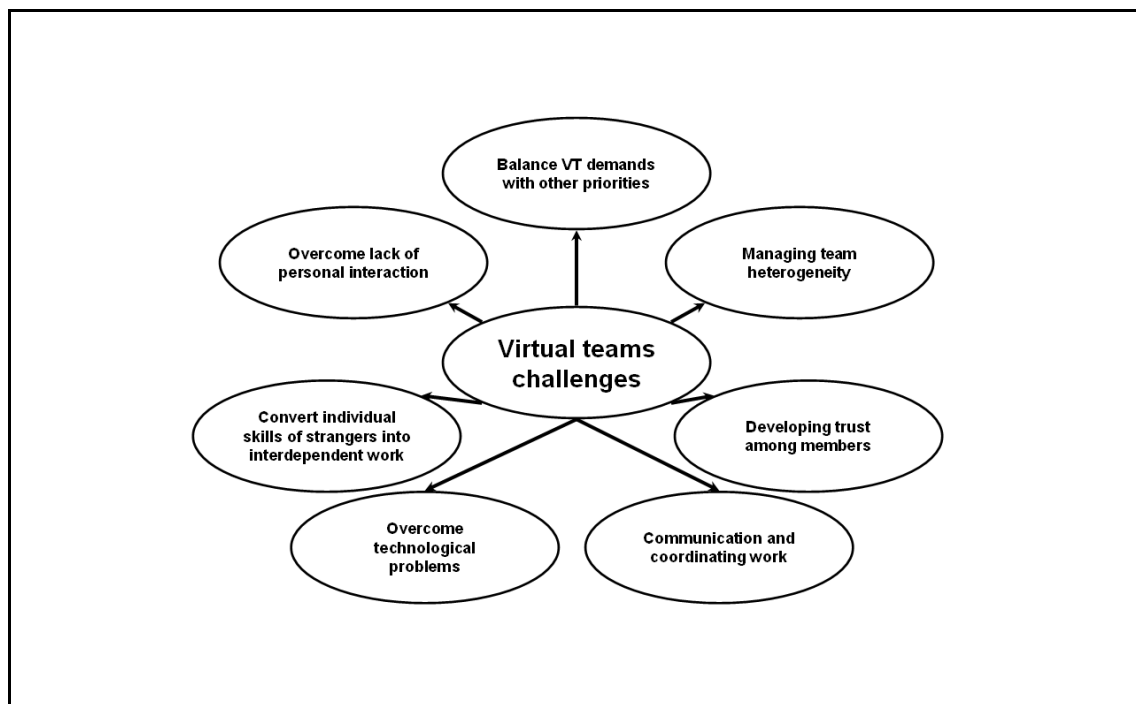
Arguably, in the normal work life⁶⁷⁸, there is big scope for mechanisms like discussions, which take place near water-coolers, coffee corners and after-office social evenings. These situations allow room for information exchange, personal interaction and relational communication. These activities⁶⁷⁹, in addition to enhance alignment within the team on critical issues, also help in reinforcing trust. In this regard, as it was discussed earlier, one of the

challenges of VTs is the lack of physical interaction and the synergies that often accompany face-to-face communication which may inhibit⁶⁸⁰ traditional ways of building trust. Moreover, according to Henttonen & Blomqvist, in VTs the barriers to trust⁶⁸¹ appeared as failure to communicate, failure to retain contextual information, failure to provide information evenly, difficulties in interpreting the meaning of silence and unfair behavioural actions.

Because of the relevance posed by the challenge of developing trust among VT members for the aim of this thesis, the two next sections will cover it, 2.3 'Trust', and 2.4 'Trust in virtual teams'. These two section precede the discussion of a conceptual framework for this research in Section 2.5.

To sum up, challenges to VTs identified in the pertinent literature has been condensed here and sketched in Figure 2-8. In a similar manner to the previous discussion on the benefits of utilising VTs, contextual features of operating VTs will be determinant of the benefits that apply, and to what extent, in a particular situation.

Figure 2-8 Virtual teams challenges



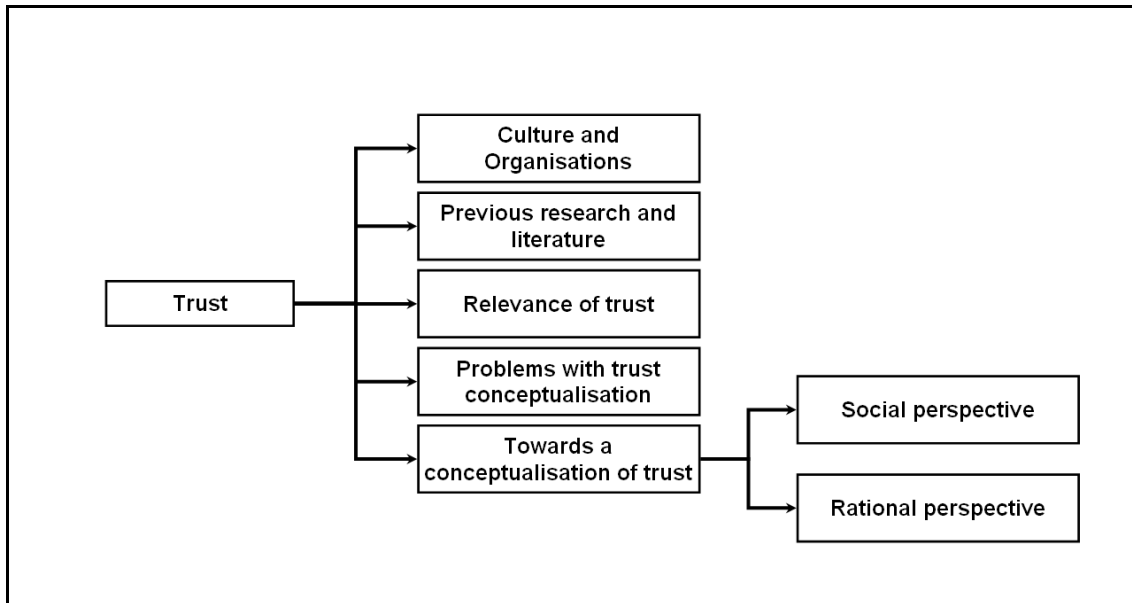
Source: Author

2.3 Trust

Before addressing a conceptualisation of trust, it is deemed useful to consider the nature of organisational culture and to provide some theoretical antecedents for the consideration of trust. Subsequently, prior research and literature relating to the relevance of trust; and difficulties with trust conceptualisations are discussed leading towards the endorsement of a conceptualisation of trust appropriate to meet the aim of this thesis is presented. This section, which

organisation is shown in Figure 2-9, is important for this research purpose as it underpins the subsequent consideration, in the next section, of trust in VTs.

Figure 2-9 Sketch of Section 2.3 Trust



Source: Author

2.3.1 The nature of culture and organisations

In an organisational context, it is argued that culture is not the overt behaviour⁶⁸² or visible artefacts that one might observe, not even the philosophy or the value system, rather it is the assumptions which lie behind the values and which determine the behaviour patterns and the visible artefacts such as architecture, office layout, dress codes and so on. In this regard, Schein states that culture⁶⁸³ is a 'pattern of basic assumptions that the group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration and that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems'. In this regard, Buchanan & Huczynski argue that Schein's view⁶⁸⁴ is that culture is the sharing of meaning and the sharing of 'basic' assumptions among organisational employees. Moreover, for them, culture⁶⁸⁵ seems to vary from organisation to organisation, and there is an argument that says that culture affects organisational performance, and hence managers must control and change the culture when necessary.

According to Ogbonna et al (2002), one of the factors⁶⁸⁶ why organisational culture has raised interest is the enduring assumption that organisational performance depends on employee values being aligned with company strategy. In this regard, Buchanan et al present a definition of organisational culture⁶⁸⁷ as the collection of relatively uniform and enduring values, beliefs, customs, traditions and practices that are shared by an organisation's members, learned by new recruits, and transmitted from one generation of

employees to the next. Although, Buchanan & Huczynski recognise that it remains a controversial concept. According to most researchers, an organisation's culture focuses⁶⁸⁸ on the values, beliefs and meanings used by its members to grasp how its uniqueness originates, evolves and operates. Also, they argue that for an organisational culture to form⁶⁸⁹, a fairly stable collection of people needs to have shared a significant history, involving problems, which allowed a social learning process to take place. Organisations that have such histories possess cultures that permeate most of their functions (Schein, 1984).

Hence, organisational culture will affect organisational performance. One of the factors motivating its study is be the assumption that organisational performance reflects the extent to which people's values are aligned with organisation's strategy. In this regard, it is argued that there are opposing perspectives on organisational culture: managerial and differentiation.

According to Buchanan & Huczynski, there are two perspectives⁶⁹⁰ on organisational culture: managerial, with a view regarding integration or organisation-wide consensus and clarity; and social sciences, a view that regards differentiation perspectives on organisational culture. On the one hand, the managerial or unitary perspective⁶⁹¹ regards culture as monolithic, characterised by consistency, organisation-wide consensus and clarity. It holds that these integrating features will lead to improved organisation effectiveness through greater employee commitment and employee control, as measured by productivity and profitability. On the other hand, the social sciences approach takes a differentiation perspective⁶⁹² which sees 'cultural pluralism' as a fundamental aspect of all organisations; seeks to understand the complexity and the interaction between frequently conflicting sub-cultures; and therefore stands in direct contrast to the managerial perspective.

In the context of the differentiation perspective, Gouldner (1957) distinguished two social identities⁶⁹³: 'cosmopolitans', which had low loyalty to their employing organisation, had a high commitment to their specialised role skills and were likely to use an extra-organisation reference group; and 'locals' which, by contrast, were high on company loyalty, had low commitment to specialised role skills and were likely to use an in-company reference group. In this regard, the social science view assumes⁶⁹⁴ the inevitability of conflict, and focuses on the variety of interests and opinions between different groups and upon power in organisations.

However, in relation to the impact of culture on organisational performance, Thompson & McHugh (2002) argue that⁶⁹⁵ in a first generation of studies (early 80s), it is notable that there was an emphasis on anecdotal evidence and the use of a dubious research methodology which linked qualitative beliefs with the firm's economic performance, and attributed any superior results to strong cultures, without reference to market or environment variables. Much of what passes for 'evidence' comes from interviews with managers who report how their effort to create commitment met with a positive response from employees and produced a significant improvement in performance. Subsequently, Ogbonna & Harris (2002), examining more recent studies,⁶⁹⁶ assert that

although some researchers still defend an association 'culture-performance', they temper their claims with caveats. In the end, Buchanan, & Huczynski contend that, whatever the future research⁶⁹⁷, it is unlikely that one will ever obtain a definitive answer. This discussion shows that the concept of culture is difficult to operationalise; arguably the factors affecting an organisation's performance would be many and varied, and isolating contributions of culture is difficult if not impossible.

Despite the emphasis⁶⁹⁸ given to the concept of organisational culture for over 50 years, there remains considerable debate and contention surrounding the nature of, and the value of studying, organisational culture. In this regard, Brooks, based on meta-analysis of studies examining the relationship⁶⁹⁹ between cohesiveness and effectiveness, which indicated that the direction of effort was from performing to cohesiveness, suggests that teams which performed well became more cohesive as a result, so organisations should worry more about raising performance instead of creating cohesiveness.

As a consequence, instead of focusing on the complexity and the interaction between conflicting sub-cultures or the implications of the central organisational dilemma, it appears worthwhile to consider the elements at the core⁷⁰⁰ of the challenge regarding VTs: to create trust, leadership approaches, melding of complementary skills, integration of work products, and enforce individual and mutual accountability.

According to Handy, there is a managerial dilemma regarding the implications of the virtual organisations⁷⁰¹ which come down to how to manage people who can not be seen, with a simple answer, 'by trusting them'. Handy sustains that to enjoy⁷⁰² the efficiencies and other benefits of the virtual organisation, it has to be rediscovered how to run organisations based more on trust than on control. In his words⁷⁰³: 'virtuality requires trust to make it work: technology on its own is not enough'

2.3.2 Previous research and literature

Prior research on trust come from many different streams in the literature. Trust is broadly accepted as a multidimensional and complex construct⁷⁰⁴ that is studied in different disciplines, such as psychology, sociology, economics, philosophy, and more recently, computer science. In addition, trust has been widely studied⁷⁰⁵ in the marketing and strategic management literature, focused on the role of trust in building up relationships between business parties, typically studying trust between buyers and sellers in a distribution channel. This widespread interest includes⁷⁰⁶ newer disciplines such as behavioural economics and neuroscience. Moreover, scholars have widely acknowledged that trust⁷⁰⁷ can lead to cooperative behaviour amongst individuals, groups and organisations. Furthermore, trust was one of the most prominent topics of early research in VTs⁷⁰⁸, highlighted by the emergence of the theory of swift trust (which will be discussed in 2.4.2.2). In this regard, researchers have suggested that trust is important⁷⁰⁹ in VTs, since it can diminish the adverse impact that geographic distribution can have on psychological intimacy.

Although scholars agree on the importance⁷¹⁰ of trust in sustaining effectiveness, research on this topic has been highly affected by the lack of agreement in defining this concept. Moreover, according to Kramer & Lewicki, scholarly literature⁷¹¹ has resulted in a proliferation of diverse conceptualisations, along with an equally diverse set of assumptions and assertions regarding its foundations.

As an example of the variety of approaches addressing trust in organisations, it can be mentioned Dietz & Hartog who argue that there are three broad strands in the trust literature⁷¹²: trust within organisations, trust between organisations and trust between organisations and their customers. Moreover, they broke down trust⁷¹³ into three constituent parts: trust as a belief, as a decision, and as an action; discerning five degrees to which one trusts along a continuum of intensity: deterrence based trust, calculus-based, knowledge-based, relational-based and identification-based.

This variability is notable when considering trust in the context of virtual teamwork. For example, according to Sarker et al, a review of the literature revealed many different streams of thought⁷¹⁴ on trust, three of which are particularly relevant in the context of VTs: personality-based trust, that develops due to a person's trusting nature; institutional-based trust, that is a function of an individual's belief in institutional norms/ procedures; and cognitive trust, that develops from social cues and impressions that an individual receives from the other. Alternatively, different empirical studies⁷¹⁵ on VTs's practices have distinguished calculative (trust as a form of economic exchange), competence (trust as a belief in another capabilities), relational (trust as a personal attachment), and integrated trust (combinations of the other three forms), which were interdependent and mutually reinforcing. Arguably, the predominant approach in research on virtual collaboration has been to explain trust as a function⁷¹⁶ of: social characteristics of the integrators, such as prior familiarity, reputation, competence, and ability; immediate outcomes of interaction processes, such as judgements of reliability, openness, integrity, trustworthiness and benevolence; and institutions such as social norms, legal structures, and privacy policies. This approach⁷¹⁷ highlights the immediate context and interchange among participants as the major determinants of trust, acknowledging that interaction and the information it provides are critical to the development and maintenance of trust.

Arguably, there is ample space for further research regarding the conceptualisation of trust in VTs and the study of the factors that could play a role in its evolution. In this paragraph, there is a brief reference to some of these claims. Firstly, it is argued that largely absent⁷¹⁸ from the existing examinations of trust in VTs is an overarching conceptualisation of the antecedents of trust that incorporates research based on traditional or collocated teams. Actually, there seems to be little agreement on how trust develops⁷¹⁹ in both the traditional and the virtual organisation literature. In this regard, very little research has been done⁷²⁰ on theory on trustworthiness antecedents. For example, an integrative view⁷²¹ of the whole trust formation process of project teams is still rare, and a comparison with the situation in VTs is lacking.

Secondly, only a limited amount of research⁷²² into the role and evolution of trust in VTs has been undertaken, and that which does exist does not offer a conclusive picture. The research on mechanisms with which trust in VTs transmits⁷²³ itself, i.e. the nature of its influence, has been inconclusive. Thirdly, it has been recently suggested that more research⁷²⁴ is needed on swift trust and the factors that influence initial trust judgements before knowledge of behaviours has been gained. Fourthly, prior research⁷²⁵ has focused mainly on self-directed teams with little attention to the role of managers and the input of managerial structures. Fifthly, there is ample room and need⁷²⁶ for the study of different kinds of capabilities of technology and their relationship to trust in VTs. For example, to date few studies have examined organisational support⁷²⁷ given to VTs, but without specifying its impact on the various component of a team. Finally, interpersonal processes represent an area in which major gaps⁷²⁸ exist in the literature on VTs.

Furthermore, Mayer et al maintain that trust study in organisations has remained problematic⁷²⁹ because of problems with the definition of trust itself, lack of clarity in the relationship between risk and trust, confusion between trust and its antecedents and outcomes, lack of specificity of trust referents leading to confusion in levels of analysis, and a failure to consider both the trusting party and the party to be trusted. Similar to the focus⁷³⁰ on swift trust, much of the research in VTs regards short-term VTs with well-focused goals, which is seen as a shortcoming in the current body of knowledge.

2.3.3 Relevance of trust

There have been different perspectives regarding the relevance of trust. In this regard, one recurrent challenge mentioned when addressing teams and VTs is trust. In general, it appears that trust is related⁷³¹ to a variety of positive outcomes in VTs. Scholarly interest in the study of trust⁷³² in organisations has grown dramatically, fuelled, at least in part, by accumulating evidence that trust has a number of important benefits for organisations and their members. Moreover, trust is one of the key behavioural themes of interest⁷³³ to organisational and information systems scholars today. Apart from the general assumption⁷³⁴ that trust is an important lubricant of the social system and a facilitator of co-ordinated action among individuals, several important benefits for teams and organisations have been associated with trust. These benefits⁷³⁵ are reflected not only in the team outcomes, but also in members' attitudes to the organisation. Costa asserts⁷³⁶ that, generally speaking, trust is an important condition for the functioning and well being of teams in organisations; although the extent to which trust may be considered a determinant factor in this functioning remains inclusive, since it is dependent on the trust requirements that are associated with the functioning of teams and organisations.

According to Mayer et al trust is critical⁷³⁷ in organisational cooperation, coordination and control. Interpersonal trust is one of the key⁷³⁸ factors influencing the performance of face-to-face as well as VTs. A number of authors have argued that trust has both⁷³⁹ a direct and mediating effect on team effectiveness. The key role played by trust⁷⁴⁰ as a foundation for effective

collaboration emphasises the recognition of the multiple and mixed motives that shape collaborative behaviour. In addition, trust has been studied⁷⁴¹ extensively within the literature on teams, and has been noted as a determining factor in the effectiveness of activities requiring coordinated action. Accordingly, many authors have established that the presence of trust relationships⁷⁴² among team members is a key condition for effective teamwork. Reportedly, trust reduces⁷⁴³ transaction costs, increases confidence and security in the relationship and promotes open, substantive, and influential information exchange. If a team can develop trust⁷⁴⁴ people feel able to share their thinking, the reasons behind their conclusions, and even the doubts that they have about their conclusions. It is suggested that trust is also critical in new organisational arrangements⁷⁴⁵ where the traditional social controls based on authority give way to self-direction and self control. In this regard, Jarvenpaa & Leidner argue that trust is maximally important⁷⁴⁶ in new and temporary organisations, because it acts as a substitute for the traditional mechanisms of control and coordination. Riegelsberger et al argue that, as in other fields, such as sociology and public policy, trust enables⁷⁴⁷ exchanges that could otherwise not take place, reduces the need for costly control structures, and makes social systems more adaptable.

The relevance of trust in both traditional and virtual environments, is highlighted from different standpoints by different authors. Research has shown that all teams⁷⁴⁸ whether face-to-face, virtual, or semi-virtual, need trust to perform effectively. For example, Jarvenpaa & Leidner, studying descriptive case studies, found that masters students' VTs that reported high levels of trust⁷⁴⁹ in the beginning and the end of tasks completion appeared to be more capable of managing the uncertainty, complexity and expectations of the virtual environment. In addition, the importance of trust⁷⁵⁰ has been increasingly recognised in the Information Systems literature, and the prevailing assumption is that it engenders direct, positive organisational consequences. As an example, at Orange, the mobile communication branch of France Telecom, low levels of trust among the VT members⁷⁵¹ were identified as hindering product development and reducing the capacity of the company to meet its goals. Although the fact that low levels of trust hinder something does not necessarily mean that high levels will help something. This point of view is suggested by Jarvenpaa & Shaw, as increases in trust do not necessarily imply increases in organisational outcomes⁷⁵², because under high levels of trust, the trustor is more likely to cooperate, and may miss how partners are taking advantage of him or her, misinterpreting other's behaviour.

A number of authors maintain that trust is even more relevant in VTs than in traditional teams. Arguably, a strong sense of trust helps⁷⁵³ to overcome many of the problems resulting from some drawbacks in VTs. Trust is critical⁷⁵⁴ to the cooperative behaviour that leads to the success of all teams, but it is especially important in VTs. According to Kanawattanachai & Yoo, one of the fundamental⁷⁵⁵ factors that are believed to be important in determining the success and failure of VTs is trust. Although trust is important in any type of team, it is even more essential⁷⁵⁶ in VTs; first, the virtual context renders other forms of social control, such as direct supervision, inoperable; second, other factors known to contribute to social control and coordination, such as

geographical proximity, similarity in backgrounds, and experience, are often absent.

In summary, arguably building trust, leaderships and development of cohesions are relational processes⁷⁵⁷ with a considerable influence on success, cooperation, motivation, and personal satisfaction in VTs. In addition, it is claimed that a trusting climate within a team enables⁷⁵⁸ the building of commitment and cohesion, as well as the development of new ideas and new creative ways of thinking despite diversity, differences in opinion or engagement conflict. In this regard, according to Jones & George, the development of trust⁷⁵⁹ is a function of an organisation's ability to create the setting within which trust can develop over time. Moreover, for organisations that can encourage the development of unconditional trust⁷⁶⁰ among their employees, the benefits can be many, especially in terms of cooperation and teamwork that promote high performance and competitive advantage. Furthermore, since trust has been recognised⁷⁶¹ as being vital, there is an increasing need to identify other factors that could enable trust development in VTs. Evidence from a number of studies⁷⁶² about durable VTs, which have working relationships that withstand wear over years, seems to indicate that the creation of commitment and relationships enabled by periodic face-to-face meetings form an important ingredient for the durability of virtual teamworking.

2.3.4 Problems with trust conceptualisation

Even though the importance of trust and understanding of how trust shapes social relationships has long been a central focus in different sciences, many researchers see the notion of trust as the most difficult⁷⁶³ concept to handle in empirical research because of the diverse definitions of trust used in each discipline and the multitude of functions it performs in the society. Accordingly, it is argued that one of the reasons for trust's conceptual confusion⁷⁶⁴ is the fact that although trust has frequently been an object of interest in various disciplines, each one approaches the concept according to its own perspective. Since trust⁷⁶⁵ is a term in everyday language that applies in many different situations, and that is also discussed in many different disciplines, it is not surprising that this in turn has resulted in a large number of operationalisations of trust. Furthermore, it is argued that changes in context⁷⁶⁶ can lead to different levels of trust and may also change the role of trust. Consequently, it can be argued that contextual factors can impact significantly the scope of trust and; hence, its study.

Moreover, Costa argue that one problem⁷⁶⁷ with studying trust is the vast applicability of the term 'trust' to different contexts and levels of analysis, such as interpersonal work relationships, teams, organisations, governance structures or even societies as a whole. As result, an enormous variety of approaches and definitions of trust have emerged⁷⁶⁸ across disciplines, appearing sometimes largely disconnected and ignoring each other's contributions, or criticising each other's research methods and accomplishments very severely. In this regard, Da Costa & Cincotto maintain that trust diversity⁷⁶⁹ approaches easily leads to the conclusion that trust has

indeed dozens of definitions, each reflecting the paradigm of the researcher's discipline of interest. In addition, Bierly et al maintain that one of the reasons why there are few studies on VTs with large samples⁷⁷⁰ is because it is very difficult to collect this information. Consequently, while studying trust and its implications⁷⁷¹ for the functioning of teams and organisations, researchers should also address the contextual variables around trust, in order to provide better interpretations of the results. In addition, Watson-Manheim et al suggest the importance⁷⁷² of studying virtual work over time rather than cross-sectionally, in order to obtain a more comprehensive examination of virtual environments.

2.3.5 Towards a conceptualisation of trust

After considering previous pertinent research and literature, this subsection considers elements leading to its conceptualisation. Different contributions have been distilled from different perspectives to underpin a conceptualisation of trust, deemed appropriate for its use in the context of the study of VTs. Subsequently, before addressing trust in VTs in Section 4, the rational and social perspectives which will be articulated to presumptive and cognitive dimensions of interpersonal trust, to be discussed in the next section, are considered.

Although developments in organisational sciences have reflected⁷⁷³ the importance of interpersonal trust relationships for sustaining individual and organisational effectiveness, a concise and universally accepted definition of 'trust'⁷⁷⁴ has remained elusive; as the term trust is used in a variety of distinct, and not always compatible, ways in organisational research. In general, however, trust is often considered a continuum⁷⁷⁵, rather than a binary trust/not trust distinction. This notion follows Mayer et al, who chose to take the traditional view that trust and distrust⁷⁷⁶ are the opposite ends of the same continuum. In this context, 'human' trust has been characterised as an internal construct that is developed over time. In addition, 'human' trust⁷⁷⁷ has been known to be empirically very fragile and difficult to recover once broken regardless of whether it is looked at from a sociological or human-machine interaction perspective. Regardless of the settings⁷⁷⁸ where trust fragility has been investigated, interpersonal or human-machine interaction environments, many studies showed and supported this notion.

In the virtual teamwork environment trust has been described⁷⁷⁹ as the 'glue of the global workspace'. Arguably, trust⁷⁸⁰ is a complex, multidimensional construct. Moreover, trust is seen as a complicated psychological phenomenon⁷⁸¹ that concerns multi-layers and dimensions and that should be studied in multiple respects. Even though most scholars agree that trust is a multidimensional construct, they disagree⁷⁸² on exactly how many different dimensions exist. For example, Mayer et al (1995) suggest three dimensions (benevolence, ability and integrity), McKnight et al (1998) suggest four dimensions (benevolence, honesty, competence and predictability), and Lewis and Weigert (1985) and McAllister (1995) suggest two dimensions (cognition-based and affect-based). In addition, the information systems literature alone

offers a diversity of definitions⁷⁸³ of trust, in part because of the many different IS contexts in which trust has been studied.

Although the traditional conceptualisation of trust⁷⁸⁴ assumes that trust resides in personal relationships and past or future memberships at common social networks that define the shared norms of obligation and responsibility, the lack of past and future association in temporary VTs, together with diversity in cultural and geographical backgrounds, decreases the potential existence of trust. Traditional models of trust need to be adapted⁷⁸⁵ to describe the development of trust between cross-functional, geographically distributed partners. In this regard, the relationship between technology and trust⁷⁸⁶ is important because information technology can change the context of human relationships.

Despite differences due to the diversity of disciplines paying attention to trust, some convergence⁷⁸⁷ has emerged around its condition of psychological state characterised by several components, the most important of which is a positive expectation regarding others' behaviour. Moreover, in recent work, multi-disciplinary conceptualisations⁷⁸⁸ converge toward an interpersonal connotation of the concept. All in all, Mayer et al's definition of trust has become widely⁷⁸⁹ accepted in the organisational literature. After analysing a number of definitions of trust in the context of VTs, Mitchell & Zigurs sustained that Mayer et al's is the most cited⁷⁹⁰ definition in the studies included in their analysis and also that this definition reflects how trust has been defined by numerous other researchers. Also, Hung et al sustain that Mayer et al's model of trust⁷⁹¹, incorporating the properties of the trustor, the attributes of the trustee, and the risk associated with the situation is one of the more broadly adopted traditional models of trust.

Mayer et al's much cited definition⁷⁹² of trust, seen in a dyadic work relationship as an individual-level construct, is the 'willingness to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party'. Here Mayer et al define trust as an outcome⁷⁹³, i.e., a dependent variable that reflects an end state, in this case a willingness to be vulnerable. This definition⁷⁹⁴ is considered sufficiently broad to provide a starting point as it is a general definition of trust rather than one that is specific to VTs.

Subsequently, this definition has been subject of different adaptations, maintaining trust conceptualised as a three-part relation involving properties of the trustor, attributes of a trustee, and a specific context over which trust is conferred. For example, Dietz & Hartog adapted elements of existing models by Mayer et al (1995) and Ross & LaCroix (1996), to build a multi-dimensional, integrated framework⁷⁹⁵ of intra-organisational trust. Also, Ferrin & Dirks found that competitive versus cooperative reward structures⁷⁹⁶ influence trust through actions and perceptions, with competitive rewards having a negative impact on members' perceptions of the information sharing and motives of others, on members' willingness to share information, and on members' assessments of

team performance; conversely, cooperative rewards were found to have a positive impact.

According to these arguments, trust needs to be conceptualised⁷⁹⁷ not only as a calculative orientation toward risk, but also a social orientation toward other people and toward society as a whole. In other words, it is argued that what is needed⁷⁹⁸ is a conception of organisational trust that incorporate calculative processes, but that also articulates how social and situational factors influence the salience and relative weight afforded to various instrumental and non instrumental concerns in such calculations.

Kramer argues that the conceptualisation⁷⁹⁹ of trust should be contextual in that it acknowledges the role of both calculated self-interest and social and situational factors consideration in trust judgement and choices. Accordingly, Curseu sees trust as an emergent state⁸⁰⁰ resulting from contextual factors, organisational context and organisational environment, which subsequently impact team processes and characteristics. Similarly, Schoorman et al suggest that it would be appropriate to specify⁸⁰¹ contextual variables for a model, that are unique to studying trust within a particular context. In addition, Jarvenpaa et al found⁸⁰² that the effects of trust are not necessarily direct and linear, agreeing with the suggestion that trust should be examined regarding both direct and moderating effects.

Media richness (eg Daft et al 1987) and social presence (eg Short et al, 1976) theories⁸⁰³, which suggest that computer-based communications media may eliminate the type of communication cues that individuals use to convey trust, question the possibility of relationship development, and subsequent trust development in VTs. Jarvenpaa & Leidner contend that, contrary to these theories, empirical studies⁸⁰⁴ have found relational information sharing in computer-mediated teams.

To sum up, despite an extended level of disagreement regarding the definition of trust and its component elements, and the difficulties associated to its study in VTs, its conceptualisation has started to achieve more clarity. Mayer et al definition has emerged has the most commonly agreed. Further, this definition has been adapted, although keeping its basic elements.

2.3.5.1 Rational perspective

According to Kramer, when considering trust in terms of individuals' choice behaviours⁸⁰⁵ two contrasting images of choice gained particular prominence, one that construes choice in relatively rational, calculative terms and another that affords more weight to the social and relational underpinnings of choice in trust dilemma situations. Accordingly, in this regard, Jarvenpaa et al maintain that trust can be viewed⁸⁰⁶ from a rational or social perspective; although most early research takes a rational perspective.

The rational choice perspective⁸⁰⁷, imported largely from sociological, economic, and political theory, remains arguably the most influential image of trust within organisational science. From the perspective of rational choice

theory⁸⁰⁸, decisions about trust are similar to other forms of risky choice; individuals are presumed to be motivated to make rational, efficient choices, i.e. to maximise expected gains or minimise expected losses from their transactions. The rational perspective⁸⁰⁹ on trust centers on the calculus of self-interest, where increases in trust decrease transaction costs of relationships because individuals have to engage less in self-protective actions in preparation for the possibility of others opportunistic behaviour.

Some of the concerns regarding the rational choice conception relate to the adequacy of rational choice perspectives on trust. Firstly, its adequacy⁸¹⁰ as a descriptive account of how people actually do make such decisions, and, specifically the extent to which decisions about trust are product of conscious calculation and internally consistent value systems has been questioned. It is suggested that rational choice models⁸¹¹ overstate decision makers' cognitive capacities, the degree to which they engage in conscious calculation, and the extent to which they possess stable values and orderly preferences. Secondly, conceptions of trust grounded in presumptions regarding the rationality of choice⁸¹² may be too narrowly cognitive, affording too little to emotional and social influences on trust decisions; and provide, at best, an undersocialised conception of trust.

2.3.5.2 Social perspective

In response to the limitations of the rational choice⁸¹³, some authors, Mayer et al (1995) amongst them, have suggested that an adequate theory of organisational trust must incorporate more systematically the social and relational underpinnings of trust-related choices. Consequently, trust needs to be conceptualised⁸¹⁴ not only as a calculative orientation toward risk, but also a social orientation toward other people and toward society as a whole.

Accordingly, for Jarvenpaa et al, the social perspective⁸¹⁵ centers on moral duty, where a social group holds values regarding one's obligations to others. Individuals may use social information⁸¹⁶ to develop their beliefs about trustworthiness of other individuals within the organisation, with third parties functioning as informants that a co-worker relies upon in developing a conclusion about an employee's trustworthiness.

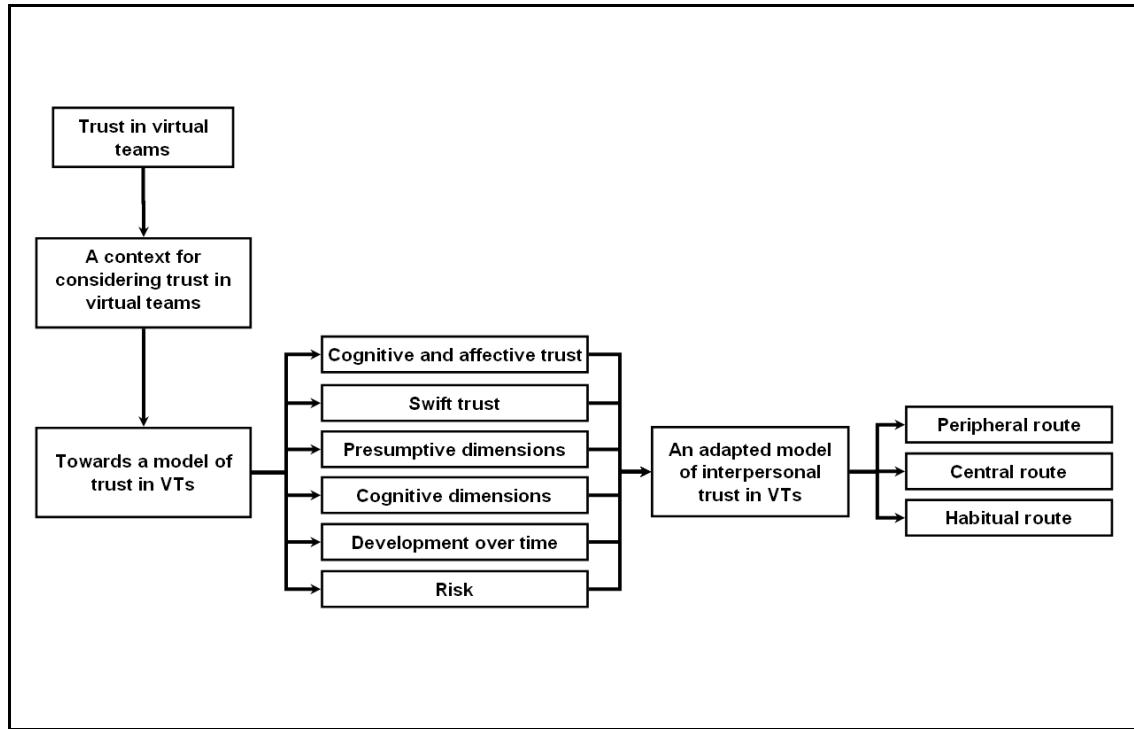
In summary, the amalgamation of a rational and social perspective in a conceptualisation of trust is coherent with past studies on trust which suggest⁸¹⁷ that trust is a multidimensional construct that has both cognitive and affective elements. This cognitive and affective foundations will be discussed in 2.4.2.1, in the next section.

2.4 Trust in virtual teams

After discussing the elements leading to a conceptualisation of virtual teams in Section 2.2 and trust in Section 2.3, pertinent to the particular context under consideration, a further step is given in addressing trust in VTs. Based on available literature, in this section 2.4 the discussion of the literature takes the reader to the consideration of the elements necessary to underpin the

suggestion of an adapted model of interpersonal trust in VTs. The organisation of this section, showing the elements that will be covered, is depicted in Figure 2-10.

Figure 2-10 Sketch of Section 2.4 Trust in virtual teams



Source: Author

One area of VTs that is argued to be both, particularly critical and inadequately understood⁸¹⁸ is trust. In particular, it is argued that there are things⁸¹⁹ you can do face-to-face that you cannot do at a distance, such as build trust quickly. Teams in general, and VTs in particular, are complex entities⁸²⁰ composed of several subsystems (individual team members) and embedded in larger systems (e.g. organisations). According to Jarvenpaa et al (1998), many authors point out that the virtual context⁸²¹ constrains or even impedes the development of trust. Moreover, Katzenbach & Smith assert that trust is a larger issue in a VT,⁸²² much more than in a traditional team environment. Arguably, in VTs, where members rely on IT-mediated interactions, successful collaboration⁸²³ depends on trust. In addition, Stanley et al states that, amongst the many strategic recommendations⁸²⁴ to improve performance of VTs, establishing the essential element of trust among VTs must receive high priority. Consistent with this view, the leading concern⁸²⁵ mentioned in a report on virtual work environments, published by Brandman University in 2011, was building trust among employees in VTs.

Management researchers frequently cite trust as an issue⁸²⁶ in emerging collaborations. In addition, researchers⁸²⁷ on virtual teamwork have given considerable attention to trust as a key issue. Trust is deemed to be even more important in VTs⁸²⁸, where members communicate mainly through information

and communication technologies and are often geographically dispersed. It is argued that trust is specially vital for VTs⁸²⁹ because of the lack of personal face-to-face interaction. Furthermore, the issue of trust is particularly important⁸³⁰ in the context of VTs because VT members being geographically dispersed lack shared social context and face-to-face interaction, that are considered irreplaceable⁸³¹ for both building trust and repairing shattered trust. In this context, trust has been identified as a key element⁸³² influencing the cohesion as well as the effectiveness of VTs.

Furthermore, there has been little systematic investigation⁸³³ of the determinants of trust in groups, particularly in distributed groups where the development of trust may be more challenging. Accordingly, in this Section 4, first a context for considering trust in VTs is set. Then, an amalgamation of elements drawn from the literature are discussed in order to devise and adapted model of interpersonal trust in VTs. Subsequently, in the last section, a brief discussion of a conceptual framework for this research work is undertaken.

2.4.1 A context for considering trust in virtual teams

Arguably, two interrelated factors⁸³⁴, diverse location and technology-enabled communication, contribute to making trust more difficult to develop in VTs than in traditional hierarchical relationships and on-site teams. VTs work⁸³⁵ towards common goals but as the team members are geographically dispersed, the challenges of communication, commitment and building trust are more intense. Kramer maintains that trust may not reach⁸³⁶ the same level in IT-enabled relationships that are void of prior social history and not tied to a known physical location as those based on face-to-face interaction. In this context of VTs, where trust might be initially created⁸³⁷, rather than imported, via communication behaviours, high levels of trust⁸³⁸ has been observed among members of VTs, who often have little prior history of working together and may never meet each other in person.

Literature regarding the antecedents of trust in VTs is inconclusive. On the one hand, it is argued that the antecedents of trust in the virtual context during the creation stages⁸³⁹ of relationship development appear to resemble traditional antecedents. Alternatively, it is argued that the evidence⁸⁴⁰ regarding antecedents of trust in VTs and the identification whether trust's outcome is in fact dependent on, or a function of, virtuality is incomplete or inconclusive and, hence, needs to be reconciled with organisationally based observation and analysis.

Other ideas discussed in the literature with relation to achievement of trust regard the temporality of VTs and situational or contextual factors. Arguably, it is not the trust concept⁸⁴¹ itself that must be specific to VTs, but rather the way that trust develops in the virtual environment. Independent of the framework employed to look at trust in VTs, allegedly the elements that should be considered in relation to the development of trust might be different according to the temporary or more permanent nature of the VT. On the one hand, much of the short-term⁸⁴² online interactions enabled by virtual teamworking technologies are usually based on pre-existing abstract trust alone. On the

other hand, long-term⁸⁴³ virtual teamworking without face-to-face collocated social interaction would lead to gradual dissipation of personal trust relationships and, subsequently to erosion of impersonal trust relations. Consistent with this view, several researchers of VTs have found evidence that often high levels of initial⁸⁴⁴, but fragile, trust exist and this dissipates easily. In this regard, by understanding⁸⁴⁵ which trust components are critical in each stage of VT development, management can increase the team probability of success by appropriate activities that influence trust components.

Baskerville & Nandhakumar developed a non-complete factor model of trust⁸⁴⁶ as one important factor in virtual teamworking, drawing on four findings: abstract trust that can sustain virtual teamworking for brief periods, personal trust which is necessary for longer periods of virtual teamworking, that periods of collocation are necessary to establish personal trust, and that trust dissipates over time. They propose that effective virtual teamworking must be enabled⁸⁴⁷ by abstract and personal trust, according to whether the VT is short-term or long-term. In addition, Panteli argues that the development of trust in a VT, which exists only on a short term basis and does not have any prior history or anticipated future, may differ⁸⁴⁸ from the development of trust in a VT that exists on an on-going basis and whose members are less geographically and culturally diverse.

Differences between virtual and face-to-face teamwork emerge from situational or contextual aspects. The degree to which virtual and face-to-face teamwork are equally effective appears to be situational, because⁸⁴⁹ some measures find them equivalent, or one of them being less effective or outperforming the other. In this regard, the antecedents of trust seem to be similar⁸⁵⁰ for virtual and face-to-face teams, but VTs must overcome some situational problems. In this regard, the context may also change⁸⁵¹ the role of trust, in relation to situations that vary in strength of the structure. In addition, it is maintained that there is a relationship between time and trust, where time is important because it is a critical part of context. As a result of empirical work based on Dirks & Ferrin (2001)'s alternatives roles of trust, Jarvenpaa et al found⁸⁵² that the effects of trust depend on the situation's structure; with trust likely to have the greatest effect in situations or conditions with weak structure, some effects in situations with moderately strong structure, and little effect in situations with strong structure. Consequently, in a situation with moderately strong structure, perhaps a moderate level of trust is the most effective.

2.4.2 Towards a model of trust in VTs

Despite trust being conceptualised⁸⁵³ in various ways in the literature, it is widely accepted that interpersonal trust has two foundations: cognitive and affective. However, Kramer suggests that an adequate theory of organisational trust⁸⁵⁴ must incorporate the social and relational underpinnings of trust-related choices, being conceptualised as a calculative orientation towards risk, but also needs a social orientation toward other people and toward society as a whole. In addition, in the dispersed manner of working of VTs, interpersonal trust⁸⁵⁵

becomes very important. Furthermore, it is argued that virtual teamwork depends⁸⁵⁶ on mutual trust.

Developments in the organisational sciences reflect the importance of interpersonal trust⁸⁵⁷ relationships for sustaining individual and organisational effectiveness. Costa, in line with several multidimensional conceptualisations of trust⁸⁵⁸, proposes that trust is not only a psychological state based on expectations and on perceived motives and intentions of others, but also a manifestation of behaviours towards these others. This suggestion is coherent with Mayer et al (1995)'s integrated model of trust among individuals in organisational settings. In this regard, McAllister suggest that interpersonal trust⁸⁵⁹ has cognitive and affective foundations, where cognitive trust result from decisions based on available knowledge and 'good reasons', and affective foundations consist of emotional bonds between individuals. Consistent with McAllister, Meyerson et al proposes that the accumulated knowledge about other's capabilities, values and behaviours⁸⁶⁰ through interactions allow an individual to base trust on cognitive assessment or affective response. In addition, Meyerson et al (1996) coined the term swift trust to explain high trust observed in temporary teams that had not worked together before. Whereas traditional conceptualisations of trust⁸⁶¹ are based strongly on interpersonal relationships, swift trust emphasises the interpersonal dimensions and is based initially on broad categorical social structures and later on action.

Furthermore, the nature of interpersonal interactions⁸⁶² in real VTs is sometimes regulated by complex norms and rules. Thus, creating opportunities to assess trustworthiness⁸⁶³ is specially important in cross-functional and cross-cultural relationships where trustworthiness may be more difficult and time-consuming to evaluate accurately. In addition, according to McKnight et al, studying initial trust formation is important⁸⁶⁴, because the result from such studies require an explanation beyond what calculative-based and knowledge-based trust theories provide. In this regard Mitchell & Zigungs suggest that the specific process that a given VT undertakes to achieve trust⁸⁶⁵ will depend on contextual factors, including differences in technology capabilities and their impact on and interaction process. In this context, Panteli, considered the nature of different situational trust types⁸⁶⁶ to argue that different VTs experience different trust relations and thus different trust development processes, arguing that significant empirical research is required to illustrate the role and effect of the various trust types typologised in VTs. Furthermore, Zolin et al posited that as a consequence of increasing cross-functional, geographically distributed work, traditional models of trust⁸⁶⁷ need to be adapted to development of trust between cross-functional, geographically distributed partners. In addition, Zolin et al concluded that initial perceptions⁸⁶⁸ of trustworthiness are particularly important in cross-functional, geographically distributed work, because workers may rely on early impressions of perceived trustworthiness when evaluating how their distant partners are delivering on commitments, due to lacking or difficulty to interpret reliable information about actual follow-through or outcomes.

In order to move forwards to the endorsement of a model of trust specific to VTs, from now on in this subsection underpinning for the consideration of trust in VTs will be discussed. This includes cognitive and affective foundations of interpersonal trust, together with paths for the development of cognitive trust i.e. swift trust and knowledge-based trust. These foundations are subsequently broken down and discussed through trust determinants sorted out in presumptive and cognitive dimensions. Further, trust development over time is included, closing with the consideration of risk as a key element in the behavioural manifestations of trust.

2.4.2.1 Cognitive and affective trust

McAllister, supported on empirical findings, distinguished⁸⁶⁹ between two principal forms of trust; cognition-based trust, grounded in individuals' beliefs about peer reliability and dependability; and affect-based trust, consisting of the emotional bonds between individuals, grounded in reciprocated interpersonal care and concern. McAllister sustained that although⁸⁷⁰ both forms of trust may be causally connected; each form of trust functions in a unique manner and has a distinct pattern of association to antecedent and consequent variables. This view is mirrored⁸⁷¹ in Mayer et al (1995)'s definition that includes benevolence as one of the core dimensions of trust. Moreover, the high-level categorisation⁸⁷² of trust is not based on properties of the trustee or his incentive structures, but on how cues of trustworthiness are processed and how trust is formed by the trustor. Similarly, different authors have argued that trust traditionally arises⁸⁷³ in two ways: based on rational or calculative assessments, called cognitive trust; and based on emotional ties, called affective trust. However, definitions of cognitive and affective trust remain controversial.

Although there are various form of trust, arguably the one that best describes⁸⁷⁴ trust between VT members is cognitive-based trust. Kramer & Tyler define cognitive trust⁸⁷⁵ as a trustor's rational expectations that a trustee will have the necessary attributes to be relied upon. Alternatively, Greenberg et al suggest that cognitive trust⁸⁷⁶ is the result of an evaluation of evidence of performance reliability and competence, and it has been modelled as a function of the other person's integrity and ability.

According to Riegelsberger et al, affective trust⁸⁷⁷ is based on immediate affective reactions, on attractiveness, aesthetics, and signs of intrinsic motivation. Conversely, Greenberg et al sustain that affective trust⁸⁷⁸ is the result of the social bonds developed in a reciprocal relationship where there is genuine care and concern for the welfare of the other person, based on assessments of benevolence. Moreover, few studies⁸⁷⁹ have empirically tested the relative importance of cognitive and affective trust. Unlike cognitive trust, affective trust⁸⁸⁰ has typically been studied in the context of close social relationships such as couples, family members and friends; although it has been found important in working group environments, in such a way that one person takes another's problem as his own and is willing to help a needed party even if he or she do not request assistance.

In consistency with the much cited⁸⁸¹ contribution of McAllister (1995), Mollering et al suggest that cognitive trust can be developed through at least two paths: swift trust and knowledge-based trust. Robert et al argue that these two perspectives of trust⁸⁸², (knowledge-based trust developed through interactions and swift trust developed prior to interaction), are two different forms of trust that are formed through fundamentally different processes. Unlike swift trust that relies on, for example, third parties, knowledge-based trust⁸⁸³ relies on information about involved parties, which is developed through interactions over time. It assumes that the more information based on experience one has about others, the more able one is to predict their actions. Furthermore, it is argued that knowledge-based trust⁸⁸⁴ is based on the assessment of behaviour and thus considered after subjects have been exposed to past behaviours of team-members. Arguably, knowledge-based trust explained more⁸⁸⁵ of the variance in trust intention than did swift trust, implying that trust formed through deliberate cognitive assessment can be stronger. This stronger trust facilitates⁸⁸⁶ a higher and more effective level of knowledge sharing. In addition, it is argued that since swift trust judgements influence⁸⁸⁷ knowledge-based trust, managers should act upon swift trust and encourage interactions between individuals for gathering personal information that contributes to the formation of knowledge-based trust.

2.4.2.2 Swift trust

Swift trust was originally⁸⁸⁸ developed to describe high-risk and high-stake temporary groups such as film crews or cockpit crews. Whereas trust is typically conceptualised⁸⁸⁹ as either an affective or a cognitive construct, swift trust is a form of depersonalised action. Early work on trust in virtual environments⁸⁹⁰ found that short-lived teams are, in fact, able to develop high levels of trust by following a model of swift trust rather than the traditional model of trust development. Meyerson et al (1996) originally introduced⁸⁹¹ the concept of swift trust for temporary teams consisting of diversely skilled team members, who had not worked together before and who might not work together in the future. In this regard, Baskerville & Nandhakumar argue that swift trust is characterised⁸⁹² by beliefs in the care of collaborators, suspension of uncertainty, risk-taking, and expected benefits. Moreover, they sustain that swift trust and trust based in abstract structures⁸⁹³, which included the systems of technical and professional expertise that organisational members had reliably drawn upon in previous situations, are similar in effect.

Subsequently, Jarvenpaa & Leidner found the existence of high initial trust⁸⁹⁴ among VTs members, suggesting that might be that trust was created swiftly based on the members' imported propensity to initiate or to respond to the first electronic communication stimuli rather than based on any particular stereotypes. Moreover, they maintain that high-trust teams exhibit swift⁸⁹⁵ trust. In addition, Hung et al suggest that presumptive attribution⁸⁹⁶ contributes to the swift formation of trust by allowing individuals to act according to general principles associated with the role and/or the category rather than on specific individual personalities or personal relationships, presuming trust and importing it from other settings. The theory of swift trust assumes⁸⁹⁷ clear role divisions

among members who have well defined specialties, with inconsistent role behaviour or blurring of roles eroding trust. In addition, it is argued that swift trust may flourish⁸⁹⁸ even though the traditional antecedents may be absent, suggesting that this kind of trust could be strong enough to survive the life of the temporary group as it is founded upon the competent and faithful enactment of clear roles and member's associated duties.

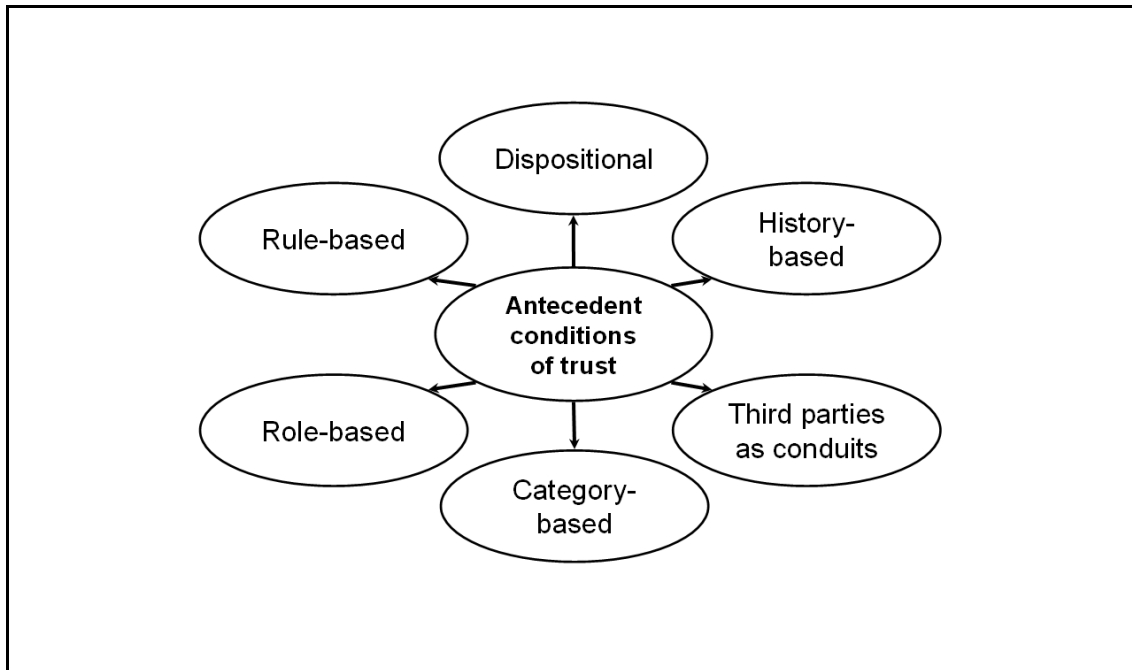
Robert et al follow the idea of treating swift trust⁸⁹⁹ as a category-matching process based on team member characteristics, not on their behaviours, and thus it has to be considered prior to any knowledge of team members' behaviour. In addition, they argue that initial, fragile – and often inaccurate – perceptions⁹⁰⁰ originating swift trust have a greater impact on subsequent trust than previously believed. Moreover, Robert et al suggest that when relevant information⁹⁰¹ about behaviour was present, individuals used it instead of the categorical bases of swift trust, and this is consistent with the idea of the fragility of swift trust.

2.4.2.3 Presumptive dimensions

Greenberg et al suggest that initial swift trust is determined⁹⁰² by external signals (reputation, roles, and rules) and predisposition to trust; with ability, benevolence and integrity determining trust in later stages. When first placed into teams, members initially look to external sources⁹⁰³ to develop the swift trust necessary to start working together, relying on their own dispositional trust and on external cues rather than their assessments of the characteristics of the other team members. Arguably, because the time pressure hinders⁹⁰⁴ the ability of team members to develop expectations of others based on firsthand information, members import expectations of trust from other settings with which they are familiar. In this regard, Kramer (1999) summarised six antecedent conditions⁹⁰⁵ of trust in organisations (see Figure 2-11), including psychological, social and organisational factors that are posited to influence an individual's formation of trust: dispositional, history-based, third parties as conduits, category-based, role-based, and rule-based trust.

Where personalised knowledge⁹⁰⁶ about other organisational members is hard to obtain, 'proxies' or substitutes for direct, personalised knowledge are often sought or utilised. In this regard, explicit and tacit understandings⁹⁰⁷ regarding transaction norms, interactional routines, and exchange practices provide another basis for inferring others' behaviours in the absence of personal knowledge. However, when faced with constraints⁹⁰⁸ of limited information, time or motivation, a trustor takes shortcuts and may commit attribution errors or have biases that maintain cognitive consistency. The assessment and interpretation of the meaning of a behaviour may vary⁹⁰⁹ across individuals; selective perception is a bias in information processing that often leaves individuals who view the same events with different interpretations of those events. In addition, pre-existing expectations⁹¹⁰ will bias one person's information processing, so that only information consistent with the expectations is attended to.

Figure 2-11 Presumptive dimensions of trust



Source: After Kramer, 1999

Disposition to trust

Sarker et al argue that one base⁹¹¹ of trust that has the potential to influence trust in VTs is the innate personality of its members. A personal characteristic of team members that is conducive⁹¹² to the development of trust in others is dispositional trust. Disposition to trust is⁹¹³ a 'generalised attitude' learned from both personal experience of fulfilled and unfulfilled promises as well as through direct observed behaviour of early caregivers. Dispositional trust refers⁹¹⁴ to individual differences in the general predisposition to trust other people, which influence trust before information about the others becomes available. Greenberg et al argue that the predisposition to trust is an important precursor⁹¹⁵ for the initial development of swift trust, and then for the development of trust in teammates' integrity and ability. Research suggest that dispositional trust⁹¹⁶ is extrapolated from people's early trust-related experiences to build up general beliefs about other people that eventually assume the form of a relatively stable personality characteristic. This form of trust is posited to have a greater⁹¹⁷ influence on an individual's trust belief before any relevant information about a team member's past behaviour is available. Furthermore, ample evidence⁹¹⁸ exists from both laboratory and field-based research that individuals differ considerably in their general predisposition to trust other people. Although a predisposition to trust does not guarantee⁹¹⁹ that a member will actually develop trust, it will influence the member's trust assessments of other members.

Mayer et al suggested an integrative model of organisational trust, where propensity to trust leads to a generalised expectation about the trustworthiness of others. In this regard, Schoorman et al sustain that dispositional⁹²⁰ aspects of

trust are contained in the Mayer et al's construct of propensity to trust. There, in terms of the trustor attributes⁹²¹, propensity to trust is a general personality trait that conveys a general expectation of how trusting a person should be. Mayer et al argue that propensity to trust⁹²² (seen as the general willingness to trust others); is a stable within-party factor that will affect the likelihood the party will trust, predisposed by people's different developmental experiences, personality types, and cultural backgrounds; influences how much trust one has for a trustee prior to data on that particular party being available. In this regard, Costa sustain that propensity⁹²³ to trust is grounded in the individual's personality, life experiences, cultural background, education and several other socio-economic factors; and that only a small percentage of the total variance of trust within teams is explained by propensity. Moreover, Jarvenpaa et al suggest that the members' own propensity⁹²⁴ to trust had a significant, although unchanging, effect on trust. However, Gill et al found⁹²⁵ in one study no support for the relation between propensity to trust and intention to trust; and in another study, they found that propensity to trust predicted intention to trust when the ability, benevolence and integrity of the co-workers was ambiguous, but not when the co-worker was clearly trustworthy or untrustworthy.

Third-parties as conduits to trust

Trust can be based on the assumption⁹²⁶ that the other participants of the team are trustworthy, because they have been introduced by a third trusted partner. In this situation, third-parties⁹²⁷ can be broadly defined as individuals who may potentially connect a trustor and a trustee within a given organisation. Third parties can play a crucial role⁹²⁸ in the development and diffusion of trust by acting as mediators in new relationships, thus enabling individuals to 'roll over' their expectations from entrenched relationships to others where knowledge or history is not yet available. Put simply, in forming⁹²⁹ a trust belief, an employee may take into account the judgement of third parties whom he or she trusts. For example⁹³⁰, 'if Bob trust him, I trust him' However, there can be some inaccuracies originated in the third party. In brief, third parties can serve as conduits of trust⁹³¹, constituting a valuable source of 'second-hand' knowledge about others; although, according to Kramer, third parties tend to make only partial disclosures about others, communicating often incomplete accounts regarding the trustworthiness of a prospective trustee, consistent with what they believe the other party want to hear.

Rule-based trust

A number of authors follow Kramer in his view that if trust within organisations⁹³² is about individuals' expectations and depersonalised beliefs regarding other organisational members, then explicit and tacit understandings regarding transaction norms, interactional routines, and exchange practices provide an important basis for inferring that others in the organisation are likely to behave in a trustworthy manner, even in the absence of individuating knowledge about them. Purportedly, the belief⁹³³ that the institution demands conformity to rules from organisational members makes team members trust each other even though they may not have met the other face-to-face. In this regard, Rule-based factors⁹³⁴ such as the situational normality and

organisational structural assurance should promote initial trust. In other words, these norms⁹³⁵ help to control opportunistic behaviour, fostering a trusting environment. Rule-based trust⁹³⁶ is predicated not on a conscious calculation of consequences, but rather on shared understandings regarding the system of rules regarding appropriate behaviour, where reciprocal high confidence in members' socialisation into and continued adherence to a normative system, can lead to a taken-for-granted mutual trust. Additionally, this sort of trust can also develop⁹³⁷ from a person's fear of the institution, referred also like deterrence-based trust.

Category-based trust

Meyerson et al argue that the lack of personal knowledge coupled with the need to engage in trusting behaviours immediately to perform their job leads⁹³⁸ individuals to use category-driven information processing as a way to manage issues of vulnerability, uncertainty, risk, and expectations. In this situation, membership⁹³⁹ of a salient social or organisational category provides a basis for presumptive trust. Category-based trust⁹⁴⁰ refers to trust predicated on information regarding a trustee's membership in a social or organisational category – information which, when salient, often unknowingly influence others' judgement about their trustworthiness. In addition, it is argued that category-based trust is often based⁹⁴¹ on cultural or identity-based stereotypes. Category processing⁹⁴² treats individuals as members of a category rather than as individuals, allowing team members to act according to general principles and practices associated with certain categories. Moreover, in this regard, it has been found that neither⁹⁴³ male nor female used gender to predict cooperation from particular individuals.

Role-based trust

Role-based trust is another form of depersonalised trust⁹⁴⁴ where individuals adopt a presumption based on their knowledge of roles, in the absence of knowledge about an individual. This form of trust entails⁹⁴⁵ stereotyping or categorising team members, depending on whether a positive or negative grouping occurs, trust levels are established accordingly. Role-based trust is based⁹⁴⁶ on the use of simple heuristics about the role the other team member plays in the absence of personalised knowledge; for example, if he or she is an accountant, he or she must be good with numbers. Role-based trust⁹⁴⁷ constitutes a form of depersonalised trust because it is predicated on knowledge that a person occupies a particular role in the organisation rather than specific knowledge about the person's capabilities, dispositions, motives, and intentions, serving as proxy for personalised knowledge about other organisational members. For example⁹⁴⁸, 'we trust engineers because we trust engineering and believe that engineers are trained to apply valid principles of engineering, moreover, we have evidence every day that these principles are valid when we observe airplanes flying'. According to Peters & Manz, this type of trust was labelled⁹⁴⁹ 'swift trust' by Meyerson et al (1996), to describe the high level of trust that occurs in new and temporary organisations, although this is a particular view. As with other bases of presumptive trust, roles function⁹⁵⁰ to

reduce uncertainty regarding role occupant's trust-related intentions and capabilities.

History-based trust

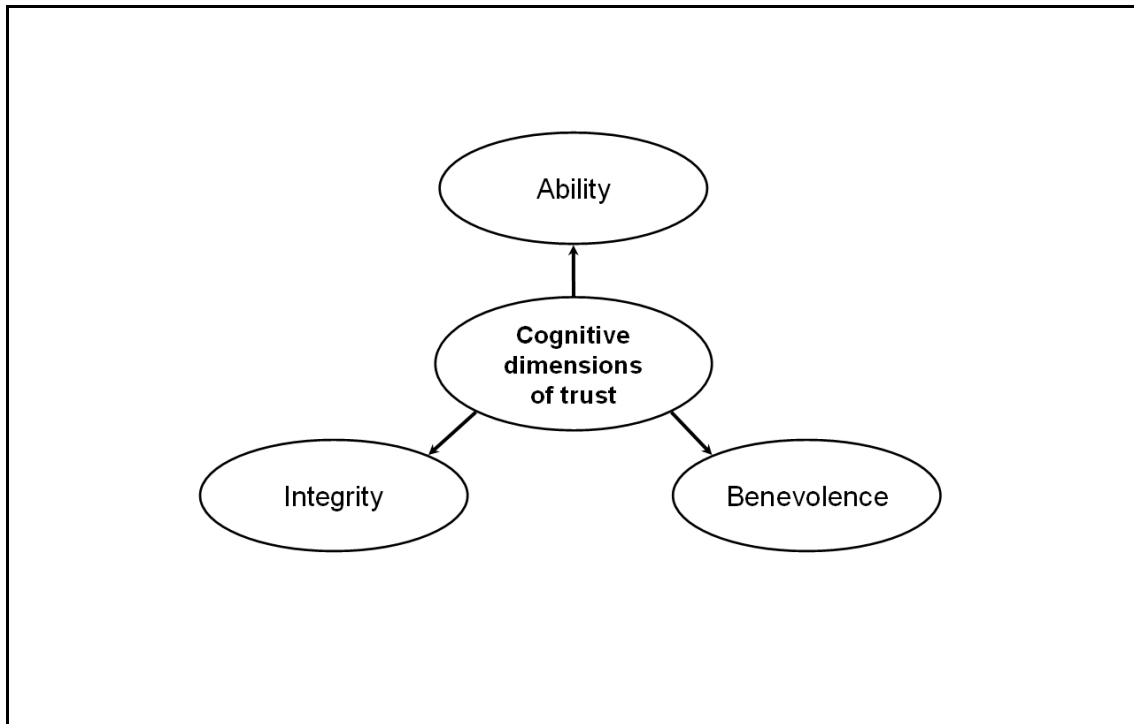
History-based trust⁹⁵¹ refers to trust between two or more interdependent actors that thickens or thins as a function of their cumulative interaction, and which gives decision makers information that is useful in assessing others' dispositions, intentions, and motives; providing a basis for drawing inferences regarding their trustworthiness and for making predictions about their future behaviour. Although Kramer includes history-based as an antecedent condition of trust, Hung et al do not consider it as part of the presumptive dimension, probably because it is based on cumulative interactions, thus this antecedent would fit in the cognitive dimension of trust. However, in this research, it is considered as an element which could serve as a peripheral cue as it is discussed in 2.4.3.1 Peripheral route, when presenting the adapted model of interpersonal trust adopted in this research work.

2.4.2.4 Cognitive dimensions

In the traditional literature of trust⁹⁵² where face-to-face communication is the norm, trust develops as the degree of familiarity with other people increases. In this regard, people trust⁹⁵³ individuals who perform reliably and competently, and display concern for the well-being of others. Sarker et al argue that as individuals get to know others⁹⁵⁴, they gain more information about them which is processed through a sequence of stages in their minds, where it is turned to schemas and stereotypes, which are cognitive structures that are used to store information about the fellow team members. Moreover, trust is built⁹⁵⁵ by assessing the success rate in previous transactions and predicting the success rate in future transactions. In the context of cognitive trust, according to Mayer et al, three characteristics of a trustee⁹⁵⁶ that leads to trust appear often in the literature: ability, benevolence and integrity (Figure 2-12). Moreover, Mayer et al argued that factors of trustworthiness from earlier models were subsumed⁹⁵⁷ in the perceptions of these three factors. Furthermore, Mayer et al sustain that each characteristic may vary⁹⁵⁸ independently of the others.

In this regard, the extent to which a person is willing to trust another person is affected⁹⁵⁹ by the trustor's propensity to trust and the trustor's perceptions of the trustee trustworthiness, determined by the trustee's ability, benevolence and integrity perceived by the trustor, with the three trust antecedents⁹⁶⁰ varying along a continuum, probably affected by the situation. In addition, the assessment⁹⁶¹ of the mentioned antecedents of trust is affected by the context. Moreover, in the model of Mayer et al (1995), three of the four factors identified as contributing⁹⁶² to trust – the trustor's belief in the trustee's ability, benevolence, and integrity – are mediated by the trustor's propensity to trust, which also serves as direct cause of trust. Furthermore, Mayer et al suggest that once a team member acquires⁹⁶³ personal knowledge about another team member's behaviour, he or she is more likely to effectively assess that team member's ability, integrity and benevolence and determine whether or not this team member is trustworthy.

Figure 2-12 Cognitive dimensions of trust



Source: After Mayer et al, 1995

Perceived ability

Ability⁹⁶⁴ refers to the group of skills that enable an individual to be perceived as competent within some specific domain. The perception of ability is an evaluation⁹⁶⁵ of whether a person can complete the required tasks. The domain of ability is specific⁹⁶⁶ because the trustee may be highly competent in some technical area, affording that person trust on tasks related to that area. Although ability⁹⁶⁷ perception would not assume that the other would be helpful; it would mean only that the possibility exists. In addition, for Riegelsberger et al, a trustor can infer ability⁹⁶⁸ both from contextual properties (previous encounters, reputation, or institutional certification), as well as directly through interpersonal cues by observing behaviour in the situation. Although this ability's inference was considered in the presumptive dimensions already discussed in 2.4.2.3.

Robert et al suggest that ability is critical⁹⁶⁹ to trust because the trustor needs to be assured that the trustee is capable of performing the task he or she is being trusted to do; otherwise, if the trustor believes the trustee is not able to perform the task, then trust will decrease. In addition, Mayer et al suggest that assessments⁹⁷⁰ of ability may not generalise across dissimilar tasks or situations. Nevertheless, Riegelsberger et al maintain that in VTs an individual's wilful decision to defect or 'cheat' will not be the main source of vulnerability, he or she might not be able to perform; then, abilities⁹⁷¹ that pertain to different domains have to be signalled in different ways and are likely to require different channels to manifest themselves. In any case, Jarvenpaa et al suggest that to rate ability highly⁹⁷², team members would have to have

detailed information on other members' backgrounds, work experiences, and current organisational contexts.

Perceived benevolence

Benevolence⁹⁷³, a property of the relationship between the trustor and trustee, is an appreciation of the trustor's good that forms a non-monetary incentive. Benevolence is seen as the extent⁹⁷⁴ to which an individual is believed to feel interpersonal cares and concerns, and the willingness to do good to the trustor, aside from an egocentric profit motive. It is an assessment⁹⁷⁵ of whether a person cares about the team member relationship. Moreover, perceived benevolence is the perception⁹⁷⁶ of a positive orientation of the trustee toward the trustor. In this situation⁹⁷⁷, a trustee 'wants' to help the trustor.

According to Zolin et al, benevolence is deemed to be similar⁹⁷⁸ to McAllister's conception of affect-based trust, trust grounded in reciprocated concern for the other party. Moreover, Jarvenpaa et al suggest that to perceive benevolence⁹⁷⁹, personal information must be revealed by others to reinforce beliefs about shared goals, rewards, and interest in establishing a good relationship. Furthermore, Robert et al maintain that benevolence is important in VTs,⁹⁸⁰ especially over the long term, because it suggests that the trustee has some attachment to the trustor, over and above the specific situation or transaction in which trust is being conferred.

Perceived integrity

The relationship⁹⁸¹ between integrity and trust involves the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable. Integrity is important⁹⁸² to trust because it suggests the extent to which the trustee's actions are likely to follow his or her espoused intentions. Integrity,⁹⁸³ a property of the trustee which ensures motivation by internalised codes of conduct, norms and values is evaluated based on an assessment of the norms and values and individual claims to act on, and an assessment of the conformity of his or her actions with these claims. If the trustor believes⁹⁸⁴ that the trustee is likely to do what he or she says he or she will do, trust will increase.

To sum up, ability, benevolence, and integrity are important⁹⁸⁵ to trust, and each may vary independently of the others. Arguably, the relative importance⁹⁸⁶ of each antecedent may also depend upon the confidence that individuals have in their knowledge of that antecedent. Moreover, if ability, benevolence and integrity were all perceived⁹⁸⁷ to be high, the trustee would be deemed quite trustworthy. Furthermore, trustworthiness should be thought of⁹⁸⁸ as a continuum, with each of the three factors varying along a continuum, rather than the trustee being either trustworthy or not trustworthy.

Some authors argue that in the early phases of teamwork, team trust⁹⁸⁹ is predicted more strongly by perceptions of other team members' integrity, and least strongly by the perceptions of their benevolence. In addition, Jarvenpaa et al sustain that the salience of other members' perceived ability⁹⁹⁰ to trust decreases over time. Similarly, Robert et al found that ability and integrity showed the greatest influence⁹⁹¹ on knowledge-based trust, consistent with

Jarvenpaa et al. In partially consistent results, Dietz & Hartog noted⁹⁹² the dominance of judgements on the trustee's integrity and benevolence, and the relatively marginalised status of the trustee's competence and predictability. Nevertheless, Mayer et al sustain that benevolence⁹⁹³ by itself is insufficient to cause trust and that Integrity by itself will not make the individual trusted.

2.4.2.5 Development over time

In the traditional perspective, trust is assumed to develop gradually⁹⁹⁴ over time based on direct personal interaction and communication. In addition, trust is argued to be dynamic⁹⁹⁵ and distinct in character at different stages of any relationship, taking on a different character in the early, developing and mature stages of a relationship. Similarly, it is argued that in a virtual context trust formation is a dynamic process⁹⁹⁶ that takes different forms at different stages of a relationship. According to Jarvenpaa & Leidner, trust in VTs⁹⁹⁷ at early stages seems to be facilitated by social aspects while trust at later stages would be mainly determined by process and task-related aspects. Arguably, trust changes with the passage of time⁹⁹⁸ as individuals begin to feel more comfortable with one another and develop improved awareness of others' integrity and competence. In this regard, once an individual accumulates sufficient personal knowledge of a team member's past behaviour, he or she will be more likely⁹⁹⁹ to engage in a knowledge-based assessment regarding the team member's trustworthiness because a knowledge-based assessment is likely to produce a more accurate judgement than using swift trust.

Arguably, swift trust would be granted based on presumptive dimensions, before assessments of trustee's behaviour are available. In this regard, Robert et al argue that swift trust and knowledge-based trust represent two forms of trust developed¹⁰⁰⁰ via different processes, typically at different stages of a relationship. In their view, during initial interactions¹⁰⁰¹, VT members are forced to rely on category-based information processing, where an individual's own personal disposition to trust and the general trust associated with the category into which the team member has been assigned are used to form an initial swift trust judgement. Furthermore, disposition to trust had greater influence¹⁰⁰² on the formation of swift trust than did category-based conduits, implying that individuals tend to rely more on their general tendency, formed through numerous past trust experiences, than on this type (swift) of group categorisation in forming their trust judgements.

Nevertheless, Jarvenpaa et al suggest that trust in VTs appears to be¹⁰⁰³ somewhat depersonalised, but perhaps not as depersonalised as described in Meyerson et al's swift trust. In this regard, Greenberg et al maintain that external signals¹⁰⁰⁴ such as reputation, roles and rules; and predisposition to trust determine initial swift trust; subsequently, ability and integrity determine trust; in later stages, assessments of benevolence and the continued assessment of integrity determine trust. Accordingly, Schoorman et al noted¹⁰⁰⁵ that the propensity to trust would be an important factor at the very beginning of the relationship, judgements of ability and integrity would form relatively quickly, and benevolence judgements would take more time.

Robert et al found¹⁰⁰⁶ that category-based processing and disposition to trust dominate the initial formation of swift trust and that when individuals accumulate sufficient information of other team members behaviour's to assess their trustworthiness, they used that individual's past behaviour to assess trust. In this situation, the effects of swift trust decline¹⁰⁰⁷, but their own initial swift judgements remain influencing subsequent knowledge-based trust judgements. Therefore, swift trust judgements¹⁰⁰⁸ made during the initial formation of trust may have a 'leftover' effect on the subsequent trust judgements. In addition, Mayer et al maintain that the assessment of the antecedents of trust¹⁰⁰⁹ are affected by the context, discussed in 2.2.5.1 'Context in VTs', because there are situational factors outside the relationship that make the decision significant and uncertain, due to the consideration of the possible gains and the potential losses embedded in the interaction context.

Lewicki & Bunker (1996) suggested a model of trust in organisations designed¹⁰¹⁰ to accommodate professional relationships. The model encompassed three types of trust, each corresponding to a different stage of the relationship: calculus-based trust, knowledge-based trust and identification-based trust. In this perspective, they are 'linked in a sequential iteration in which the achievement of trust at one level enables the development of trust at the next level'¹⁰¹¹. Although this view does not focus on the determinants of interpersonal trust. Lewicki & Bunker left their model undeveloped and were careful to avoid¹⁰¹² normative evaluation of trust constructs as being better or worse. Moreover, in further empirical studies,¹⁰¹³ by McAllister et al, calculus-based measure was revealed as not a form of trust.

In summary, different authors converge over the idea that interpersonal trust develops gradually, although through different forms, at different stages of the relationship amongst VT members. Initially, presumptive dimensions facilitate trust development; but at a later stage, cognitive dimensions underpin trust assessment, although 'coloured' by early trust judgements.

2.4.2.6 Risk

Arguably, one of the very reasons for trusting¹⁰¹⁴ is that risks are not clearly identified or quantified, and thus take the form of potential threats. Thus, trust is only required¹⁰¹⁵ in situations that are characterised by risk and uncertainty, where something is at stake and the outcome of a situation is uncertain. In this regard, Mayer et al identified perceived risk¹⁰¹⁶ as an essential element of trust in organisations, inherent in the behavioural manifestation of the willingness to be vulnerable, because an individual must take a risk in order to engage in a trusting action, making a difference between trust and trust behaviour, that is the difference between the willingness to assume risk and actually assuming it. Hence, a positive trust decision¹⁰¹⁷ can, but does not necessarily lead to the display of trusting behaviour. Furthermore, risk is defined by Rusman et al¹⁰¹⁸ as the perceived possibility of a loss or gain as interpreted by the trustor, outside of considerations that involve the relationship with the particular trustee. In addition, Rusman et al differentiate trusting behaviour¹⁰¹⁹ as the observable interaction of a trustor with a trustee, where risk is taken by the trustor's

dependence on the trustee in a certain situation, following upon a positive trust decision.

The consideration of risk¹⁰²⁰ makes a clear argument for the importance of the context in which the risk is to be taken, because the specific consequences of trust will be determined by contextual factors such as the stakes involved, the balance of power in the relationship, the perception of the level of risk, and the alternatives available to the trustor. In this regard, the perceived risk inherent in the behaviour is also critical¹⁰²¹ in determining whether or not a specific action will be taken. Based on one's belief of the involved parties trustworthiness, his or her trust and subsequent trusting behaviour¹⁰²² is further determined by the assessment of risk in the situation. Assessing the risk¹⁰²³ in a situation involves consideration of the context, such as weighing the likelihood of both positive and negative outcomes that might occur. Thus, the perceptions of risk¹⁰²⁴ come from the trustor's assessment of gain or losses outside the relationship with the particular trustee, where the level of trust is compared¹⁰²⁵ to the level of perceived risk, if the level of risk is perceived to be higher than the level of trust; the individual is less likely to engage in trusting behaviour. Only if the level of trust surpasses¹⁰²⁶ the threshold of perceived risk, the trustor will engage in trusting behaviour.

Arguably, being a member of a team involves a certain amount of risk¹⁰²⁷ because members are dependent upon each other to complete the team's task successfully. Also, real-world trust situations¹⁰²⁸ vary widely in the type and gravity of risk they pose. Perceived risk, in VTs has been proposed¹⁰²⁹ to be the key factor that differentiates one's trust belief and trust intention, the difference between an individual's willingness to assume risk and actually assuming it. Moreover, the relation between trust and risk¹⁰³⁰ seems a key issue in the behavioural manifestations of trust. Also, communication environment¹⁰³¹ is posited to have an indirect influence on trust intention through the impact of a VT member's perceived risk of the situation; where individuals may perceive higher levels of risks, when their communication and collaboration is primarily through the use of ICTs. In addition, risk¹⁰³² may be perceived as particularly high in cross-functional, geographically distributed work because of high task interdependence, the inability of workers to perform the job of others, and the difficulty of getting information about team members' follow-through. Conversely, once individuals gained even a modest personal knowledge¹⁰³³ of others' behaviours, the uncertainties introduced by the geographic distance and the use of ICTs had less impact on perceived risks.

To sum up, Ermish et al maintain that few studies¹⁰³⁴ have considered the effect of attitudes to risk on trust. However, the consideration of the literature suggest that in VTs perceived risk, set in a particular context, is deemed to be a key factor to determine the manifestation of trusting behaviour.

In a Report to the USAF's Research Laboratory, Seong maintain that there is limited literature with regards to interpersonal trust in VTs¹⁰³⁵ and that, to make it worse, there is no empirical research conducted to examine the role and importance of interpersonal trust in VTs despite its practical implications. Therefore, given the lack of a ready conceptualisation or framework for the

consideration of interpersonal trust in VTs, the challenge posited here is to obtain a sufficiently relevant set of component determinants to assist in considering interpersonal trust in VTs performing military capability planning and its subsequent analysis. This is the aim of the next subsection which closes the discussion of interpersonal trust in VTs.

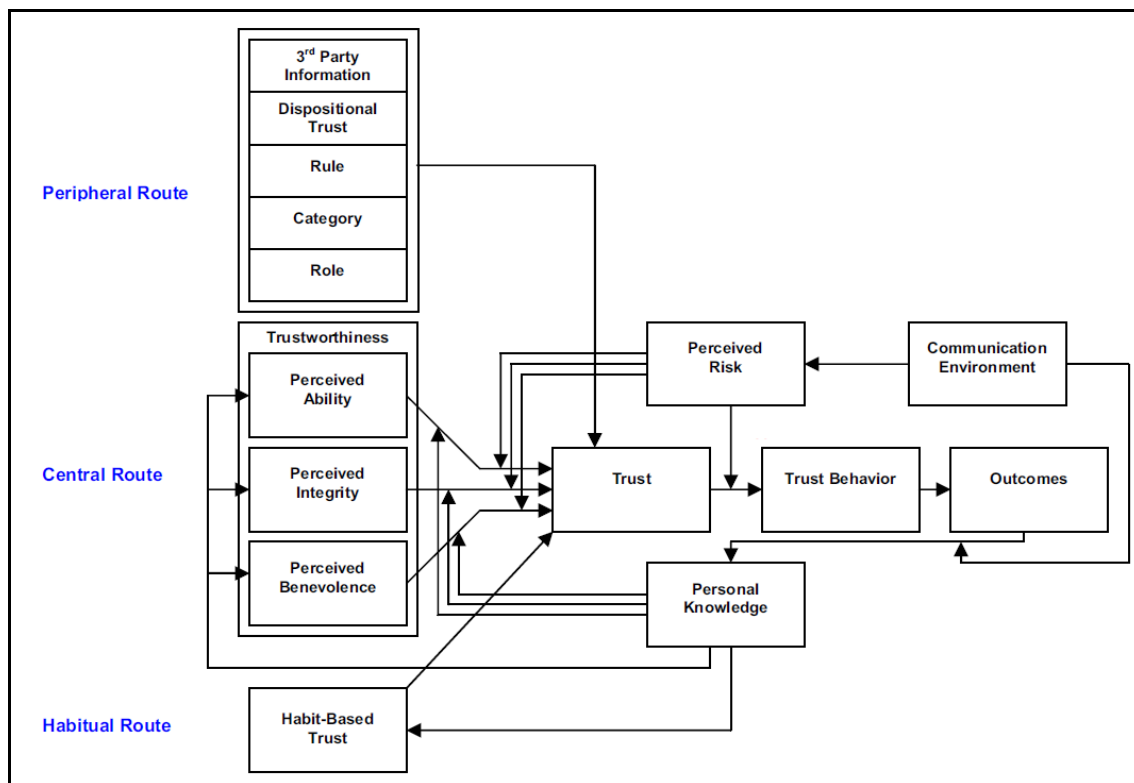
2.4.3 An adapted model of interpersonal trust in VTs

In order to analyse interpersonal trust determinants in VTs, under the particular perspective of this research, it is necessary to devise a theoretical framework for its study. Based upon the preceding arguments and discussion, this theoretical framework should focus on interpersonal trust, including elements influencing trust, prior and through personal interactions: cognitive and affective as well as presumptive dimensions of trust development and evolution through time. Also, pertinent literature suggest to include the consideration of risk in the process enabling engagement in trusting behaviour. With this end, after considering suitable literature, an integrated model of trust formation brought from the literature, Hung et al (2004)'s, specially related to virtual scenarios, is proposed to serve as the basis for the development of the conceptual framework for this research.

Kramer argues that, traditionally, trust has been seen¹⁰³⁶ as a result of history-dependent interaction. Moreover, according to Robert et al, trust¹⁰³⁷ has been seen as a result of personal knowledge of an individual's past behaviour, through a gradual development over time based on an individual's cognitive assessment of the other person's behaviour. According to Mayer et al, traditional trust development¹⁰³⁸ theories describe a deliberate cognitive process in which one party's trustworthiness and the level of perceived risk of a given situation are compared. However, the limitations on personal interaction and communication, often little prior history of working together, and relatively short collaboration time, would lead traditional models of trust to predict¹⁰³⁹ low trust between VTs members, where studies have found high initial trust among team members. In this regard, traditional perspectives have been taken forward and developed. Different authors have made advances, building on traditional models, in order to embrace organisational trends such as the increasing occurrence of cross-functional, geographically distributed and technology-enabled teamwork. For example, Zolin et al expanded¹⁰⁴⁰ the Mayer et al (1995)'s Integrative Model of Organisational Trust to reflect the context of cross-functional and geographically distributed work, adding the explicit consideration of potential rewards to trustors trusting the trustee, proposing that cultural diversity will reduce perceived trustworthiness, and proposing that initial perceptions of trustworthiness are used to evaluate work follow-through because of the difficulty in assessing perceived follow-through. In this regard, there is empirical evidence that the factors that influence trust formation¹⁰⁴¹ change over time as individuals gain experience with the behaviour of team members. In addition, Zolin et al allude to 'forces of stability'¹⁰⁴² suggesting that workers in geographically distributed work environments may be more resistant to changing their opinion of co-workers.

Based on dual process theories of cognition, Hung et al integrated the traditional developmental view of trust and models of presumptive trust, proposing that individuals form trust through three possible routes¹⁰⁴³ (Figure 2-13) depending upon the stage of the trusting relationship: peripheral, central and habitual route. Hung et al proposed an integrated model¹⁰⁴⁴ of trust formation and maintenance in both traditional organisational settings and VTs, stating that the route an individual uses to form trust depends on his or her motivation and ability to process relevant information about other team members. Arguably, Hung et al's integrated model of trust¹⁰⁴⁵ embraces the dynamic nature of trust formation and development by the consideration of the three possible routes to trust, which represent the gradual shift of bases for trust formation over time as the individual gains personal experience and knowledge of the other parties. In addition, the model¹⁰⁴⁶ proposes that the perceived risk of the situation, as an assessment of the likelihood of significant and/or disappointing outcomes, will moderate the relationship between trust and trust behaviour; and may also influence the route selection to trust, where the higher the perceived risk, the more likely the central route will be used. Furthermore, based on the characteristics of capability planning activity, the model is expanded by means of adding History to the peripheral route, and breaking down the Habitual route into three determinants.

Figure 2-13 Hung et al model of trust formation



Source: Hung, Dennis & Robert, 2004

2.4.3.1 Peripheral route

Although in temporary or VTs¹⁰⁴⁷, in the cases where collaboration is not required, people are less likely to deliberately assess the other's trustworthiness; when the task requires highly interdependent collaboration, people may be more motivated to do so. Moreover, when people first meet¹⁰⁴⁸ the lack of personal knowledge about the interacting parties' forces people to use peripheral cues embedded in the interaction environment; then, information such as the parties' social categories and roles, and organisational norms becomes dominant in forming trust.

Arguably, the presumptive trust¹⁰⁴⁹ observed in temporary and VTs, and at initial encounters in organisations can be attributed to the peripheral route of information processing. Within the peripheral route, trust is based¹⁰⁵⁰ on information that is category, schema, and heuristic driven. In this regard, Kramer summarised six antecedent conditions of trust¹⁰⁵¹ that are posited to influence an individual's formation of trust: disposition to trust, history-based, third parties as conduits, category-based, role-based, and rule-based trust. These were discussed in 2.4.2.3. Hung et al maintain that these antecedent conditions of trust, except for history-based, could be considered as the peripheral cues¹⁰⁵² that serve for the formation of initial trust in the situations where personal knowledge of the interacting parties is not available or limited.

Although Hung et al did not include history as a peripheral condition for trust. In the context of this research, the six antecedent conditions stated by Kramer, hence including history, are retained. This, in order to include the situation, plausible in the studied context, where a new military or civilian VT member have had the opportunity in the past of work together with somebody who is already a member of the same VT. In this regard, arguably this previous history allows importing expectations of trust from that previous context, serving as a peripheral cue.

2.4.3.2 Central route

Where VTs members have opportunities to accumulate personal knowledge¹⁰⁵³ of their teammates, they may be able to form trust through the central route, where the attributes of their teammates are deliberately assessed. As individuals accumulate personal knowledge of others¹⁰⁵⁴, the ability plus the motivation to engage in deliberate assessment of the interacting parties induces the use of the central route of information processing, basing the evaluation of third parties trustworthiness in their ability, benevolence and integrity. This central route is activated¹⁰⁵⁵ by the individual motivation and ability to process relevant information gained through interactions and accumulated personal knowledge, gradually forming trust through the deliberate assessment of personal attributes.

The central route to trust is consistent¹⁰⁵⁶ with the traditional developmental view of trust, posited by Mayer et al as a function of an individual's perception of the interacting party' trustworthiness determined by his or her ability, benevolence and integrity¹⁰⁵⁷.

According to Hung et al, when an individual forms trust¹⁰⁵⁸ toward other members in a team, he or she considers both the amount of these antecedents and their importance in a particular situation, which implies that trust is based on the perceived amount and importance of ability, integrity, and benevolence to the situation.

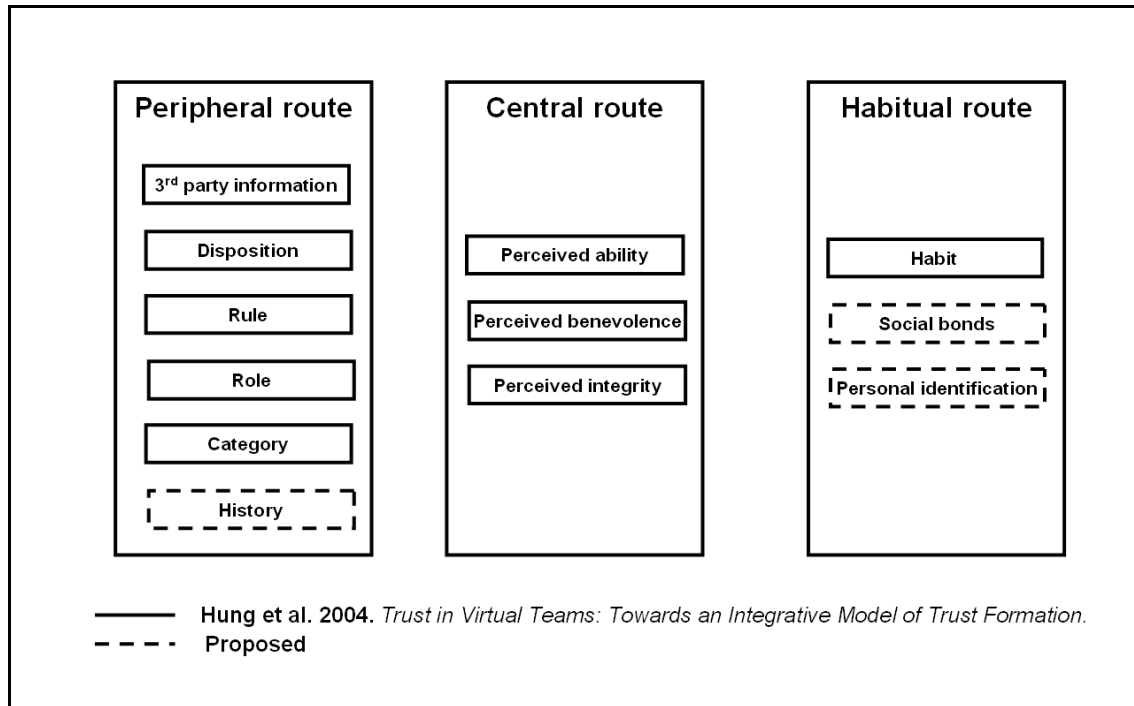
2.4.3.3 Habitual route

According to Hung et al, trust formed through the habitual route¹⁰⁵⁹ is based either on habitual patterns or on personal identification, thus requires a mature trusting relationship. In addition, Rusman et al suggest that trust based on the habitual route¹⁰⁶⁰ is relatively resilient, durable and not easily disrupted, although when it is shattered it is not easily restored.

As individuals gain more knowledge about each other, they may form a habitual pattern of making trust judgements. As a relationship matures, a habitual pattern¹⁰⁶¹ of trust may be rewarded with outcomes indicating that the trust is justified, becoming a habit as it is reinforced. The accumulated personal knowledge¹⁰⁶² based on prior successful trust transactions contribute to a habitual trust attitude and even begin to identify strongly with other's need, preferences, and priorities, and come to see them as their own; then, trust becomes a habit. Da Costa & Cincotto suggest that identification-based trust emerges¹⁰⁶³ when the partners move from a state of mere good will to a stage in which they identify with each other. This identification-based trust is grounded¹⁰⁶⁴ in deep knowledge of the partner's desires and intentions. Moreover, identification-based trust¹⁰⁶⁵, based on extensive personal knowledge, contributes to a trust attitude that involves affect and emotion. Furthermore, identification-based trust¹⁰⁶⁶ is characterised by mutual understanding amongst all parties to the point that each can effectively act for the other, allowing greatest potential for effective, value-adding knowledge sharing. In this situation, motivation to cognitively assess¹⁰⁶⁷ information is reduced leading to the use of the habitual route where neither peripheral cues nor relevant personal information is consciously used to form a person's trust attitude.

As a result, it can be argued that habitual patterns and personal identification constitute determinants that operate in the habitual route i.e. after extensive interaction, personal experience and knowledge of the other parties. Furthermore, McAllister et al suggest¹⁰⁶⁸ the need to address the unique role of emotional bonds within trust development processes. Consequently, and based on the characteristics of capability planning activity considered in 1.6.3 'The capability planning process' and in 2.2.4 'Virtual teams in capability planning', social bonds and personal identification are suggested as additional determinants in the habitual route. This, in order to include the plausible occurrence where CPG members can develop reciprocal social relationships and where personal identification is plausible to develop, both leading to building up stronger interpersonal trust.

Figure 2-14 Interpersonal trust determinants in CPGs



Source: Author, adapted from Hung et al, 2004

In sum, based on the Hung et al model and the preceding discussion, it is proposed that the particular context where CPGs are set provides underpinning for the consideration of additional determinants to those suggested by Hung et al. As discussed, by means of adding history in the peripheral route and social bonds and personal identification in the habitual route. This is shown diagrammatically in Figure 2-14, where the proposed interpersonal trust determinants in CPGs are presented.

In the next section, in order to conclude the present chapter, a conceptual framework for this research is devised. Subsequently, the research design, execution and further analysis would allow examining this proposition.

2.5 A word about performance

This section is not intended to be a thorough discussion about performance in VTs. As with other streams of the literature on VTs, this specific topic is fragmented, lacking of an integrative framework to organising prior and guiding future research. However its consideration serves to add extra underpinning to the idea of the relevance of trust in the increasing adoption of virtual teamworking that has been already discussed.

Performance in a military context can be considered under two general perspectives: as pertaining to either a 'battlespace' or a 'businesspace'. In this context, Ehrengren & Hornsten suggest that a main difference between business and military¹⁰⁶⁹ is the way 'result' is measured, where business results are very 'easily' measured in return on investment while the military objectives

are only means to reach other objectives. This definition, however, leaves open a consideration of performance that go beyond this dichotomist view as could be the activity of planning strategic procurement in a defence organisation i.e. capability planning activity. Thus, a consideration of performance and trust in VTs should explore first performance and trust, then performance and VTs, to conclude with performance and trust in VTs.

Performance and trust

To start with, it is argued that a team's actual performance¹⁰⁷⁰ relates to the extent to which the group's product or service meets the required standard. Moreover, although team performance can be evaluated¹⁰⁷¹ from a management point of view, it is argued that team members have the best understanding over how well their team perform tasks in relation to their objectives. Furthermore, perceived task performance has been found to correlate strongly with more objective measures and relationship continuity. In addition, the overall importance of relationship between trust and performance is emphasised¹⁰⁷² in various studies. In general, however, Altschuller & Benbunan-Fich suggest that trust alone is not always the ultimate goal¹⁰⁷³ for a team's effort; trust coupled with superior performance is in their view the ideal outcome.

In this regard, views that trust 'affect' or is directly related to performance co-exist. Hung et al maintain that trust¹⁰⁷⁴ affects performance and is critical in organisational cooperation, coordination and control. In addition, Ferrin & Dirks suggest that the degree of trust¹⁰⁷⁵ an individual has in a work partner has been shown to directly or indirectly affect a number of work outcomes such as individuals' and group's performance. Moreover, Garrison et al suggest that within management and information systems community, the prevailing view¹⁰⁷⁶ suggests a direct relationship between trust and performance.

Performance and VTs

In relation to performance and VTs, Chang et al suggest that performance evaluation in VTs can stand different criteria¹⁰⁷⁷: the extent to which a group's outputs meet the required standards; the process of conducting the work, not the actual outcome generated; or team members' level of satisfaction with the process. In this regard, Martins et al, when reviewing findings related to team inputs, processes, and outcomes in VTs found that much of the literature has been devoted to examining¹⁰⁷⁸ the effects of virtual interaction on team affective outcomes and on performance outcomes; such as effectiveness, speed of decisions and decision quality. Moreover, they found a lack of focus¹⁰⁷⁹ on behavioural outcomes in research on VTs, suggesting that this is, probably, because most of the studies have been conducted in temporary teams. However, Ortiz de Guinea et al maintain that the multifaceted nature¹⁰⁸⁰ of VTs and the inconsistent reporting of empirical results make understanding what leads to high performance very complex. Moreover, even as the incidence¹⁰⁸¹ of virtual teaming has become more prevalent, understanding the specific impacts on performance has remained difficult to ascertain.

However, Willmore suggest that a common and incorrect assumption¹⁰⁸² about VTs is that they are a poor alternative to face-to-face work when in a number of functions VTs outperform face-to-face teams. In this regard, Siebdrat et al maintain that research shows that VTs can outperform¹⁰⁸³ their collocated counterparts when they are setup and managed in the right way. Moreover, they sustain that VTs that had processes that increased the levels of mutual support, member effort, work coordination, balance of member contribution and task-related communications consistently outperformed¹⁰⁸⁴ other teams with lower levels.

In addition, lack of consistency has been found regarding the findings for the effects of virtualness on the quality of team's decisions, which have been mixed. Several researchers have found no difference¹⁰⁸⁵ in performance quality between virtual and face-to-face teams, while others have not found differences in the quality of decisions and, that objective performance and process outcomes were very similar. Conversely, it has also been found¹⁰⁸⁶ that VTs produce better work, make more effective decisions, generate more unique and high quality ideas, and report their solutions as being more original.

Nonetheless, when considering VTs performance, researchers have consistently found that virtual interaction¹⁰⁸⁷ increases the amount of time required to accomplish tasks. In any case, Henttonen & Blomqvist suggest that quantitative studies¹⁰⁸⁸ of VTs enabling the linkage of their management and subsequent performance would be valuable for further theory development and testing. Furthermore, Martins et al maintain that with virtual teamwork becoming more of a norm in organizations, it is important to examine long-term behavioural outcomes in future research.

Performance and trust in VTs

Regarding performance and trust in VTs, Jarvenpaa et al suggest that prior studies on VTs have been inconsistent¹⁰⁸⁹ on the relationship between trust and performance and that alternative roles of trust may allow to better understand this.

On the one hand, trust is seen as a critical element regarding performance in VTs. Firstly, trust is found to be a key variable¹⁰⁹⁰ related to VT performance. Moreover, Powell et al suggest that trust is an important contributor¹⁰⁹¹ to team performance in general but has been acknowledged to be even more critical in VTs. Accordingly, Duarte & Snyder maintain that the fact that VT members might be outside¹⁰⁹² the immediate work group makes the task of developing and maintaining trust even more critical for performance. In addition, Chang et al maintain that the three main factors¹⁰⁹³ that affect performance of VTs are cultural adaptation, communication quality and member trust. On the other hand, it is argued that there is no empirical evidence supporting a relationship between trust and performance in VTs. In this regard, Jarvenpaa et al suggest that trust provides important benefits¹⁰⁹⁴ for IT-enabled relationships, pointing out that it should not be assumed that among the benefits associated with trust is improved task performance, as they didn't find relationship between trust and task performance.

In any event, Curseu suggest that because VTs are inherently diverse¹⁰⁹⁵, it is reasonable to argue that trust foster VT performance through its impact on the information exchange and the emergence of VT cognition.

In summary, trust and performance are seen as directly or indirectly related, although the former would be the prevailing view. Moreover, VTs impose additional challenges for the study of performance, and available literature on this specific topic is not consistent, further theory needs to be developed and tested. Furthermore, studies regarding performance and trust in VTs have been inconsistent, although it has been argued that it is reasonable to maintain that trust foster VT performance.

2.6 Literature review: A conceptual framework for research

As was pointed out in the introduction, this chapter demonstrates that relevant literature regarding the topic under consideration has been located and analysed, identifying specific gaps, and underpinning the assertion of the research problem; and, subsequently the structure of the conceptual framework for research.

Consequently, pertinent pieces of literature have been discussed, identifying gaps in the topic under consideration that underpin the statement of the research problem and; subsequently, developing a conceptual framework for research, derived from the consideration of the literature and its interpretation.

2.6.1 Relevant literature: A multidisciplinary approach

In this literature review, in order to argue about trust in VTs in the defence context, a number of subjects have been reviewed, including VTs, their employment in military capability planning, VTs potential benefits and challenges, a pertinent conceptualisation of trust, trust in VTs, trust dimensions and trust routes. In this context, principles and a relevant number of characteristics have been analysed and discussed. As a consequence, it has been exposed that more than being a clearly defined subject of study, the study of trust in VTs in a defence context is fed from different streams of knowledge, requiring a multidisciplinary focus, encompassing management and organisational behaviour among other views, where practitioners' and academics' perspectives have concurred.

The construct of this review considered three main sections, following a flow from setting a context for the consideration of VTs in military capability planning, to specifics aspects in the consideration of a conceptualisation of trust and interpersonal trust determinants in VTs.

Initially, the military capability planning ways of working and some previous definitions were considered, leading to a concept of VT. After considering the nature of organisations and teams, and major trends affecting most organisations, a conceptualisation of VT was encompassed, including antecedents deemed relevant for the context of this thesis work, which is the utilisation of VTs in military capability planning. These antecedents had to do

with the increasing relevance of the utilisation of VTs in military capability planning, problems with the pertinent literature, the need for research; and considerations about its life-cycle, technology, and the idea of virtuality or virtualness. This conceptualisation allowed the endorsement of a definition of VT useful for this research purpose and to discuss about VTs contexts, tasks, and potential advantages and disadvantages.

Then, it was deemed useful to consider the nature of organisational culture providing theoretical underpinning for the consideration of trust in organisations, in the context of interest. Afterwards, previous research and literature on trust, relevance of trust, and problems with trust conceptualisations were discussed leading towards the endorsement of a conceptualisation of trust as a multidimensional construct in a dyadic work relationship, suitable to the scope of this research.

Subsequently, the last section focused on the underpinning necessary for the consideration of interpersonal trust determinants, in order to illustrate the role and effect of the various trust types typologised in VTs, encompassing traditional conceptualisations of trust, based on cognitive and affective dimensions reliant initially on broad categorical social structures. Finally, a discussion considering the routes that an individual uses to form trust leads to the proposition of three additional interpersonal trust determinants expanding a model drawn from the literature.

2.6.2 The research problem: gaps in literature

In this literature review, it has been manifest that the published material regarding military capability management is limited. Furthermore, it has been also evident that concerning the consideration of interpersonal trust determinants in VTs in a defence strategic planning context there are no records.

Although there is no evidence to argue about the reasons for this situation, some ideas can be conjectured. From the outset the newness and diversity of VTs and, consequently the consideration of trust in VTs are apparent reasons for this gap. Moreover, the consideration of trust determinants in VTs in defence is deemed to be even more recent. This gap in the literature is aggravated because of the multiple contexts and theoretical approaches available to undertake the consideration of this topic. In addition, military confidentiality regarding warfighting capabilities and particularly the identification and prioritisation of options for maintaining and developing military capabilities may be very high. Furthermore, TLMC has been argued to be product of an evolution which is still on development with developmental focus on the newer part of the TLMC construct i.e. capability generation. Arguably, interest in the topic that is being researched has been stimulated lately due to the significant gap in the funding of the Capability Change Programme.

In summary, arguably there is no evidence of research or studies published undertaking the consideration of trust determinants in VTs in a defence strategic planning context or any other that can be assimilated to what this thesis work is

addressing. Moreover, there is ample evidence to sustain that there is a significant need for research regarding the topic under consideration. Given current limitations of research, discussed in this chapter, this work has the potential to contribute significantly to existing knowledge, by adding up to develop a holistic understanding of the complex theme of VTs, clarifying and defining the nature of teamwork that takes place on military capability planning, and researching about interpersonal trust determinants in military capability planning's VTs. Reliant on these arguments, it is deemed fulfilled the requirements of originality that must characterise a PhD research work.

2.6.3 Conceptual framework for research

Given current limitations of the literature about trust in VTs, discussed in the present chapter, it is expected that this research will make a contribution to the development of a holistic understanding of the complex theme of VTs. It is intended to contribute to existing knowledge by clarifying and defining the nature of teamwork that takes place on the particular context presented here, i.e. military capability planning. Then, the requirement of considering real VTs, performing meaningful tasks would be satisfied. With this end, to study, analyse, discuss and probably adapt the model of trust formation of Hung et al (2004), considering relevant literature in this regard, is deemed to be a significant part of the work undertaken.

In this conceptual framework, the study concentrates on the determinants of interpersonal trust, entailing a set of elements about which empirical evidence is to be gathered. In addition, the issues surrounding those determinants within the CPG as well as risks beyond the interpersonal relationships which could influence the trust behaviour of CPG members, are explored.

Furthermore, this research results should help to understand how trust forms and what could be the nature of managerial actions that could be adopted to encourage its development. In addition, it could be useful to employees who want to be trusted and need to have a better understanding about how to go about it.

The preliminary basic idea about this research was to conduct the fieldwork in two dependent phases. Initially, to conduct a number of interviews to a sample of selected CPGs, providing them a brief explanation about the focus of the research, in order to receive meaningful and contributing answers. In a subsequent step, based on the results obtained in the previous phase, it is intended to apply questionnaires to the members of all the CPGs, in order to gather evidence about specific areas of enquiry, pursuing the objectives of confirming and expanding the evidence.

2.7 Summary of the chapter

As was pointed out in the introduction of this chapter, it is intended to satisfy the requirements of demonstrating that relevant literature regarding the topic under consideration has been located and analysed, identifying specific gaps, and

underpinning the assertion of the research problem; and, subsequently the structure of the conceptual framework for research.

Consequently, pertinent pieces of literature have been discussed, identifying gaps in the topic under consideration that underpin the statement of a research problem and; subsequently, developing a conceptual framework for research, derived from the consideration of the literature and its interpretation.

In Chapter 3 an adequate methodology for the research to undertake will be discussed, entailing a research paradigm, methods, tools and techniques to collect and analyse data, the sources of evidence, the techniques selected to gather information and the limitations and ethical considerations that are relevant in this particular research context.

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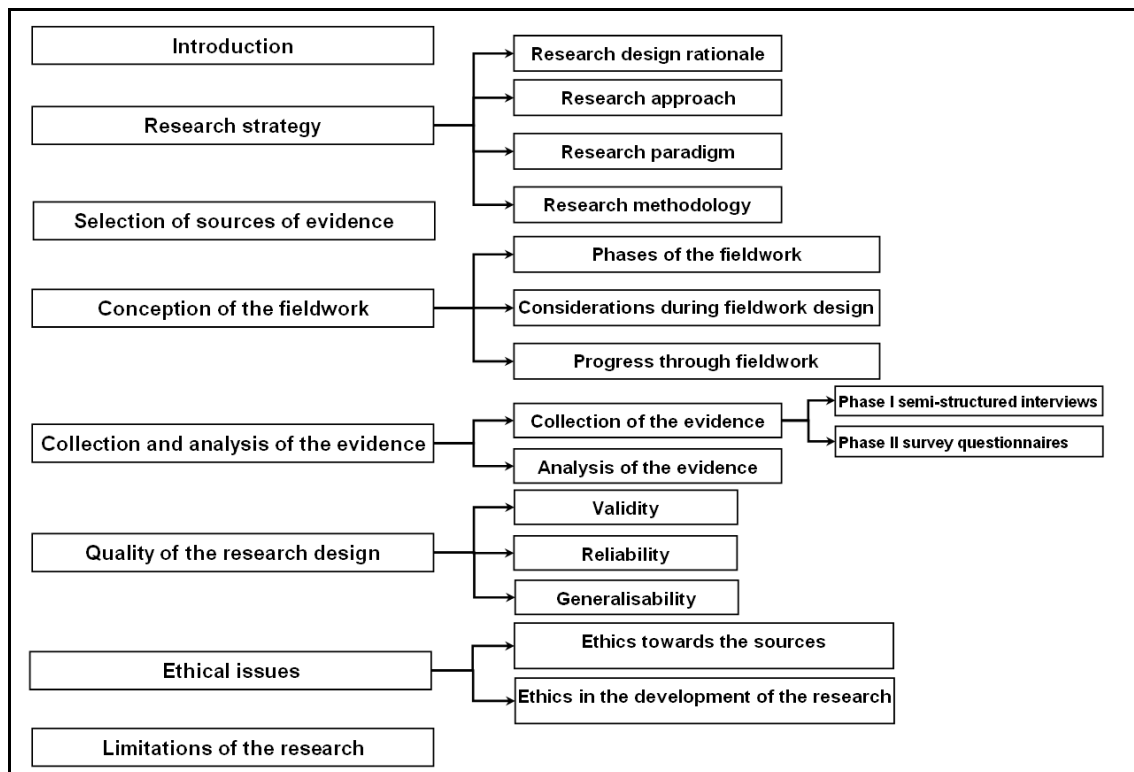
3 Research methodology

3.1 Introduction

In the previous chapter, the consideration of the literature allowed the identification and narrowing down of an original area for research and justified a gap in knowledge. Following this, a conceptual framework for research was developed as a result of the assertion of a research problem.

According to Yin, a standard approach to compose research reports¹⁰⁹⁶ involves the sequence of the issue or problem being studied, a relevant prior literature review, the methods used, the findings from the data collected and analysed and the conclusions and implications from the findings. Thus, in this chapter, after the introduction and the subsequent literature review, a framework for research is formalised and the research methodology to be employed discussed. In this regard, Bal & Teo maintain that a methodology¹⁰⁹⁷ differs from a philosophy, a method, a set of procedures, a collection of techniques, a standard; as it is a combination of all these. Accordingly, this chapter entails the adopted research paradigm, the selected research methods i.e. the tools and techniques to gather and analyse research data, the sources of evidence and, the ethical considerations that are of significance for this research. Finally, the limitations of the research are identified as an element in the definition of the scope of this research. The structure of the chapter is presented in Figure 3-1.

Figure 3-1 Structure of Chapter 3



Source: Author

Subsequently, in the following chapter, the results of the fieldwork, as well as the pertinent analyses will lead to a subsequent chapter, which covered an integrated analysis and discussion of the data gathered in the two-phase fieldwork. This integrated analysis and discussion addressed the answer to the research questions. Finally, a set of conclusions distilled from the research work will be presented in the final chapter.

3.1.1 Research problem

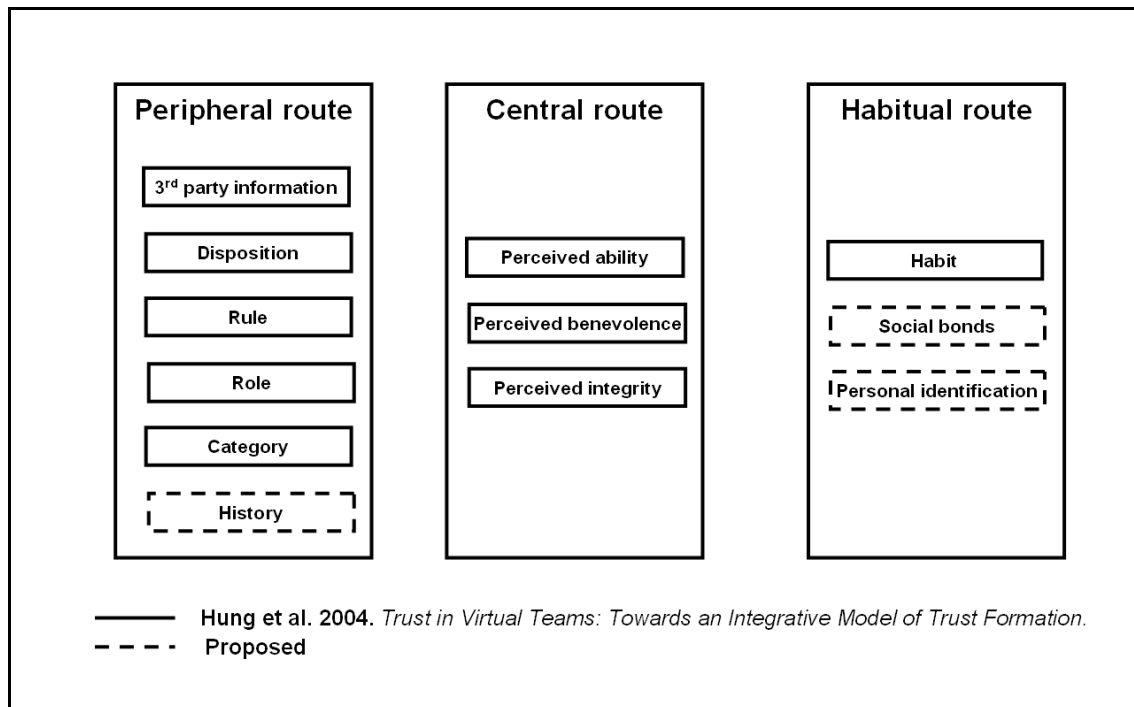
Increasingly, organisations establish teams to commit people from different organisational or functional areas, to pursue a common goal. In the case of the topic of this research effort, virtual teams (VTs) are set in order to integrate inputs from different MOD perspectives and functional areas, in capability planning activities, for the identification of capability gaps or needs, to provide required future military capability. As discussed, capability planning is performed under the UK's MOD conceptualisation of Through Life Capability Management (TLCM), following an approach where the Defence Industrial Strategy (2005), and the Defence Acquisition Change and subsequent programmes have played a key underpinning part.

In the previously mentioned type of interdisciplinary and cross-functional arrangement, interpersonal trust is important, although the lack of agreement over definitions pertinent to this matter and other study factors have confounded attempts to conceptualise an integrative approach within the academic, practitioner and the defence contexts. In particular, in this latter context, because different disciplines or functional areas undertake different perspectives, and give emphasis to different things. Thus, there is a top-level agreement but fragmented views dominate at a detailed level.

In general, there is accumulating evidence that trust has a number of benefits for organisations and their members. Moreover, trust is related to a variety of positive outcomes in VTs, where trust would be even more relevant than in traditional teams because of reduced personal interaction, and is reflected in member's attitudes to their organisations as well. Through understanding which interpersonal trust determinants are critical, management can increase the team probability of success by appropriate activities that influence those trust determinants. Furthermore, in the particular context under consideration, it can inform the design of organisational processes and systems, when improving capability planning activity, facilitating focus on the elements with major importance and paying attention to those remaining. In doing so, interpersonal trust can be stimulated and its increase influence positively interpersonal relationships and, subsequently performance, in the CPGs.

Interpersonal trust determinants and the three possible routes to interpersonal trust in the CPGs, discussed and identified in the previous chapter, through the literature review, are depicted in Figure 3-2 and constitute a central element of this study.

Figure 3-2 Interpersonal trust determinants in CPGs



Source: Author, adapted from Hung et al, 2004

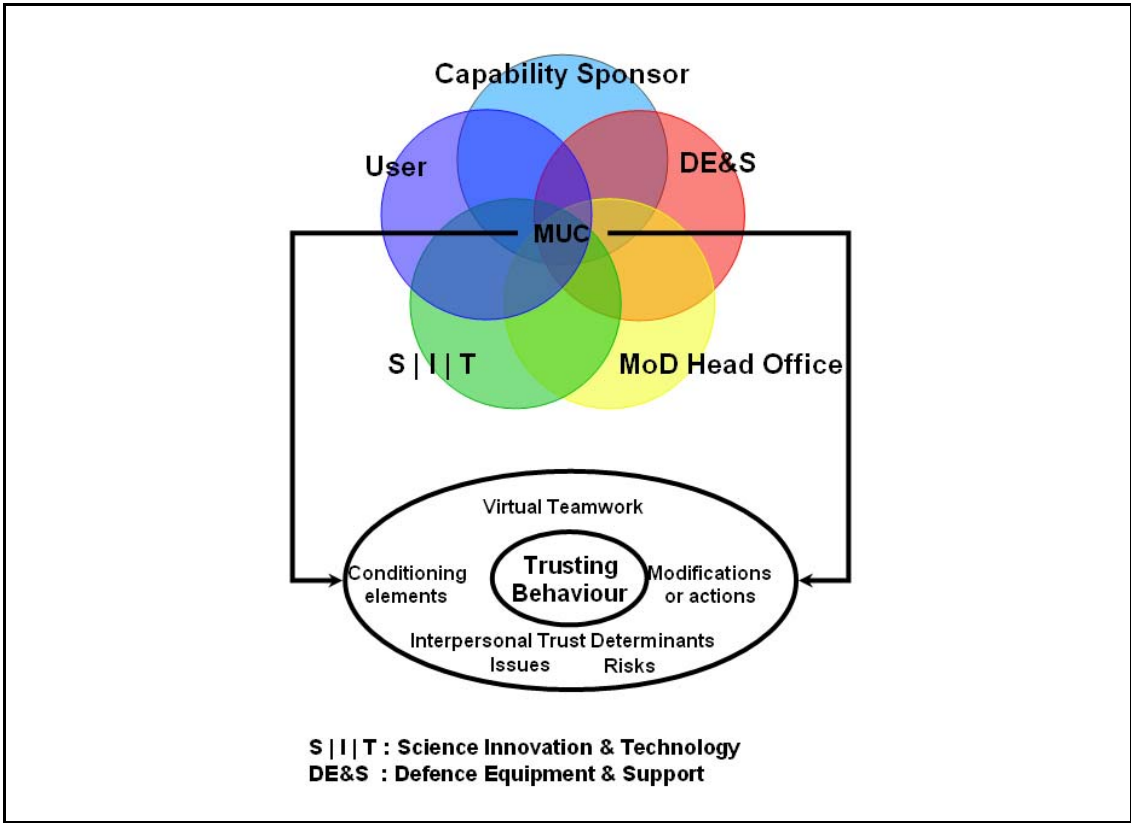
The members of such VTs, coming from varied backgrounds and environments within defence, would be expected to exhibit certain features, such as suborganisational cultures, processes and systems; home suborganisational allegiances; career aspirations; behaviours; practices; specialised knowledge, previous experience, and styles of working. These psycho-social and organisational features will be referred to as conditioning elements (not organisational as it includes organisational and personal, social and managerial, and cognitive and affective elements among others). As it can be normally expected, VT members will have similarities and differences in these features. When VT members work, these characteristics can influence interpersonal trust determinants and diminish or increase the team probability of success.

Thus, in order to perform optimally, issues or potential issues related to the mentioned determinants, need to be understood in the specific context of a given policy, and resources, time and other constraints; and addressed, making adjustments when necessary, in order to integrate successfully different skills, aiming to optimise the outcomes of capability planning. Either modifying the conditioning elements or taking managerial action influencing those trust determinants, with the overall aim of encouraging interpersonal trust development. Therefore, in the context of this research, if interpersonal trust determinants are not undermined; and are, rather encouraged, then trust should flourish and the trusting behaviour will be apparent.

The research problem as enunciated in Chapter 2, and as a result of the above considerations and the exploratory nature of this research, has to do with the

investigation of the determinants of interpersonal trust in the CPGs, the role these determinants play in enabling or inhibiting coherent capability planning, potential issues and related risks outside interpersonal relationships that could influence the trust behaviour. Therefore, a first inquiry of the rationale will examine the determinants of trust amongst CPG members. A second area of investigation should address the issues that may exist within the CPGs regarding the identified trust determinants. Finally, a third enquiry should examine risks beyond the interpersonal relationship influencing trust behaviour. In this regard, understanding how interpersonal trust is perceived can inform management modifications or actions, aiming to stimulate trusting behaviours and, as a consequence, to optimise capability planning activity. This constitutes the basic conceptual framework of the study and informs the research design as seen in Figure 3-3.

Figure 3-3 Study Conceptual Framework



Source: Author

In summary, the overall intent of the study is to address the understanding in respect of interpersonal trust determinants operating within the CPGs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability. This is set in the context of the cross-functional integration of skills and capabilities across defence organisations in the MOD Unified Customer (MUC).

In order to carry out this research, these purposes are acknowledged into the next elements in the context of the CPGs, considered as VTs, around which evidence will be gathered. There are then, three key elements; the topic, objective and research questions; which will influence research design, data collection and analysis:

Topic

Critical analysis of interpersonal trust determinants in VTs, working in capability planning in the identification of capability gaps or needs, to provide required future military capability.

Objective

To develop a critical analysis of interpersonal trust determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability, with a central focus on interpersonal trust determinants within the CPGs.

Research Questions

According to Collis & Hussey, a research question states¹⁰⁹⁸ the specific line of enquiry the research will investigate and attempt to answer. In order to fulfil the requirements of this conception and based on the study framework proposed, the following questions need to be responded:

- Research Question 1. **What are the pertinent determinants of interpersonal trust in the CPG?**
- Research Question 2. **What, if any, are the issues surrounding those determinants within the CPG?**
- Research Question 3. **What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of VT members?**

3.2 Research strategy

3.2.1 Introduction

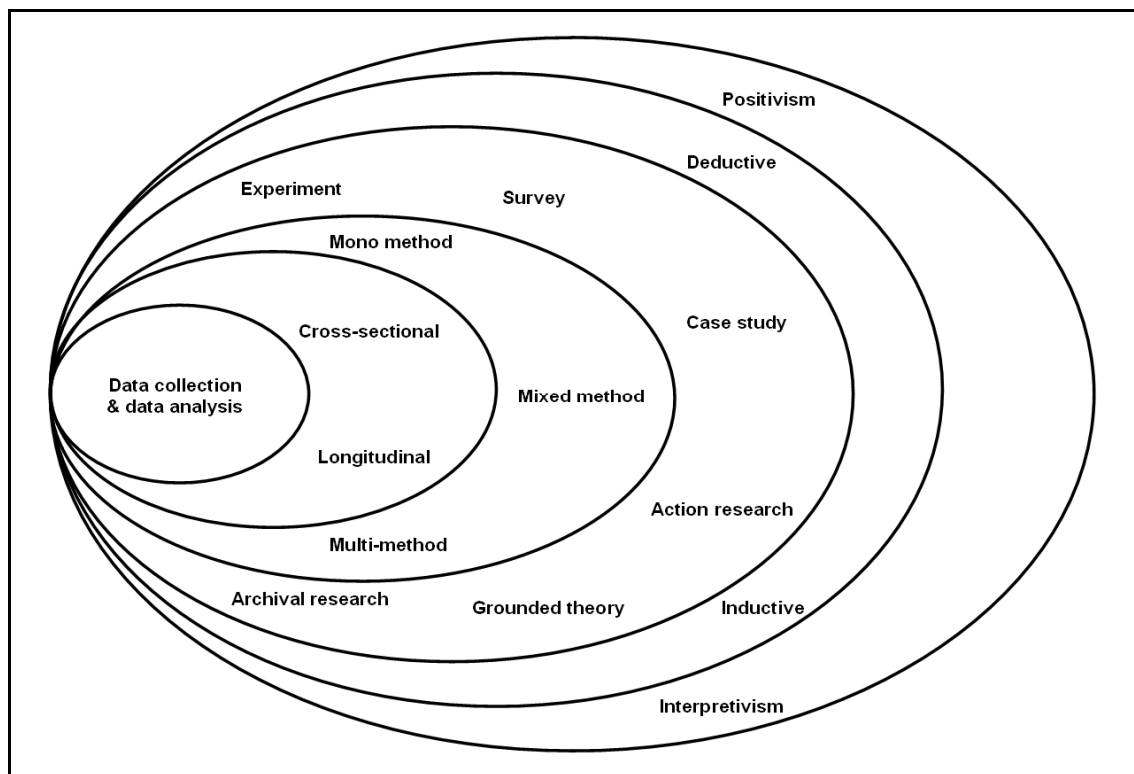
Collis & Hussey sustain that research¹⁰⁹⁹ is a time-consuming and expensive activity and therefore a research strategy is needed to ensure meeting the objectives. In this regard, this chapter addresses the formalisation of a framework for research and discusses the research methodology to be employed. This section is intended to link the research problem to a suitable methodology, through an analysis and discussion involving the balance of advantages and limitations of particular elements of the strategy. In addition, Silverman argues that the choice of method¹¹⁰⁰ should reflect both the research topic and the overall research strategy. Consequently, after identifying this research's approach and paradigm, the research methodology is discussed, leading to the identification and justification of the chosen exploratory, informed by case study, methodology. Subsequently, in the following sections, some

other elements relevant to the research methodology are covered. This includes the selection of sources of evidence, conception of the fieldwork, collection and analysis of the evidence, quality of the research design, and ethical issues to conclude with the statement of the limitations of the research.

3.2.2 Research design rationale

According to Yin, a research design¹¹⁰¹ is the logic sequence that links the data to be collected to the initial research questions of the study and, ultimately, to its conclusions. As such, it could be thought of as a 'blueprint' of the research process, developed from the overall research paradigm, discussing and justifying the methods selected for data collection and analysis, and the fit of those methods to the research aim and subsequent conclusions. In this regard, Saunders et al maintain that areas and options that should be covered are depicted¹¹⁰² in the research 'onion' where the issues underlying the choice of data collection method or methods are presented, as it can be seen in Figure 3-4. Although, practical reality¹¹⁰³ is that a particular research question rarely falls neatly into only one of the domains suggested in the 'onion'.

Figure 3-4 Research options of the researcher



Source: Adapted from Saunders et al, 2009

The main purpose of the research design¹¹⁰⁴ is to help to avoid a situation where the evidence does not address the initial research questions. Crucially, it should reflect¹¹⁰⁵ the fact that careful thought have been devoted to why a particular research design is being employed. Consequently, in this second

section, careful consideration is given to the different options available, bearing in mind the stated objective and research questions, together with the nature of the topic enunciated next.

3.2.3 Nature of the topic

Easterby-Smith et al suggest that four things combine to make business and management a distinctive focus for research¹¹⁰⁶:

- The way in which managers and researchers draw on knowledge developed by other disciplines;
- The fact that managers tend to be powerful and busy people. Therefore, they are unlikely to allow research access unless they can see personal or commercial advantages.
- The fact that managers are educated;
- The requirement for the research to have some practical consequence.

In this regard, Saunders et al maintain that using knowledge¹¹⁰⁷ from a range of disciplines enables to gain new insights that can not be obtained through all of these disciplines separately. In addition, they sustain that the problems addressed¹¹⁰⁸ should grow out of interaction between the world of theory and the world of practice.

In general, the main goal of this research is to study interpersonal trust determinants in the context of cross-functional virtual teamwork, which is performed in order to produce¹¹⁰⁹ an endorsed Capability Management Plan, which is affordable, stable, agile and realistic. The basic idea about this work is to integrate different perspectives and skills from different UK's MOD organisations to perform a military capability planning process. Therefore, the topic of this research is related to disciplines of management, pertaining to themes of strategic planning and organisational behaviour. Although, recognising that the conceptualisation of VTs has remained problematic because of the many different contexts or disciplines studying them. Besides, the consideration of the literature underpins the idea that there is ample space for further research regarding the conceptualisation of interpersonal trust in VTs and the study of different conditioning elements.

As already mentioned, it is expected that the results of this research would be of use to inform management modifications or actions to optimise capability planning activity. Moreover, this thesis work, following what Collis & Hussey suggest, can be understood as exploratory research because there are¹¹¹⁰ very few or no earlier studies to which to refer for information about the research problem. In this regard, according to Saunders et al, an exploratory study is particularly useful¹¹¹¹ when determined to clarify understanding of a problem. In addition, this study is basic, as it is designed¹¹¹² to make a contribution to general knowledge and theoretical understanding, rather than solve a specific problem.

3.2.4 Research approach

In devising a research strategy, a major consideration is to undertake a qualitative or quantitative approach or a combination of them i.e. to define the way¹¹¹³ in which the data is collected and analysed. There are many arguments¹¹¹⁴ in the literature regarding the merits of qualitative versus quantitative research, but the choice will be influenced by the nature of the research project as well as the researcher own philosophical preferences. In addition, the selection of an approach will be dependent on the practical aspects of data collection and analysis of the evidence, and the level of interpretation that this process is expected to require.

On the one hand, a quantitative approach¹¹¹⁵ involves collecting quantitative data, or qualitative data that can be quantified, and analysing them using statistical methods. This approach aims¹¹¹⁶ to collect facts and figures using methods like social survey or analysis of statistics. Quantitative researchers use techniques¹¹¹⁷ that are likely to produce quantified and, if possible, generalisable conclusions. On the other hand, the qualitative approach¹¹¹⁸ involves collecting qualitative data and analysing it using interpretative methods. Its aim¹¹¹⁹ is to gain a more in-depth understanding of a situation; this may entail interviews, participant observation or analysis of personal diaries, or autobiographies. Qualitative researchers are more concerned¹¹²⁰ to understand individuals' perceptions of the world, seeking insights rather than statistical perceptions of the world. As such, qualitative studies are conducted¹¹²¹ in a natural setting.

Arguably, understanding the major advantages and disadvantages of each approach¹¹²² is likely to help to select the most appropriate methodology for the task in hand. In this regard, qualitative research¹¹²³ is normally easier to start, but often is more difficult to analyse the data and write up the final report. Conversely, many students find that a quantitative study¹¹²⁴ is harder to start, but it is easier to conduct the analysis and write up because it is highly structured.

Many qualitative researchers believe¹¹²⁵ that they can provide a 'deeper' understanding of social phenomena than the one that would be obtained from purely quantitative data. In addition, qualitative research designs¹¹²⁶ tend to work with a relatively small number of cases, sacrificing scope for detail.

Although some quantitative research can be criticised¹¹²⁷ or found insufficient, the same may be said about some qualitative research. No method of research¹¹²⁸, quantitative or qualitative, is intrinsically better than any other. Furthermore, most research methods¹¹²⁹ can be used in research based on either qualitative or quantitative methodologies. In this regard, Silverman asserts that it can be helpful¹¹³⁰ occasionally to combine qualitative and quantitative methods. Similarly, Collis & Hussey sustain that a study might incorporate¹¹³¹ elements of both as their merits are often considered to be complementary in gaining an understanding in the social sciences field.

As a consequence of what has been discussed in this subsection, the decision about this research approach then, is to undertake a balanced combination of both perspectives, following an approach focused on the perceptions of individuals involved in virtual teamwork in capability planning, but adding up the advantage of capturing views from a extended number of individuals from this context.

3.2.5 Research paradigm

Collis & Hussey argue that the starting point¹¹³² in research design is to determine the research paradigm. Paradigm¹¹³³ is a term frequently used in social sciences, but it can lead to confusion, as it tends to have multiple meanings. According to Smith, the most common use¹¹³⁴ of the word paradigm in social sciences is to designate a school of thought, theoretical perspective or set of problems. From this point of view, a research paradigm¹¹³⁵ is a framework that guides how research should be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge. In this regard, a research paradigm is essential to provide a rationale for the choice of methodology.

The different perspectives about research philosophical frameworks can be divided into two basic schools of thought¹¹³⁶, positivist and interpretivist or phenomenological. The emergence¹¹³⁷ of the social sciences led to the development of the second main research paradigm, the interpretivism, which involves an inductive process with a view to providing interpretative understanding of social phenomena within a particular context.

Their basic assumptions differentiate these main research paradigms, which represent different views of the world and the nature of knowledge. On the one hand, positivism is underpinned¹¹³⁸ by the belief that reality is independent of people and the goal is the discovery of theories based on observation and experiment. On the other, interpretivism is underpinned¹¹³⁹ by the belief that social reality is not objective but highly subjective because it is shaped by people's perceptions. In this view, the researcher interacts¹¹⁴⁰ with that being researched because it is impossible to separate what exists in the social world from what is in the researcher's mind.

Critics of positivism in research on business and management argue that rich insights¹¹⁴¹ into this complex world are lost following the positivist tradition. Although one paradigm¹¹⁴² is not 'right' and the other 'wrong', a particular paradigm may be more acceptable in a given discipline. For example, qualitative research¹¹⁴³ tends to use a non-positivist model of reality, where 'detail' is found in the precise particulars of such matters as people's understandings and interactions. In addition, Saunders et al maintain that working within an interpretivist paradigm, the concern¹¹⁴⁴ would be to understand the fundamental meanings attached to organisational life.

As justified in the subsection 3.1.1 'Research problem', the focus of this research lies on the context of management where the perspective of the world and the nature of knowledge fits better in a broadly interpretivist perspective. In

this regard due to considerations discussed in Chapter 2 concerning problems with the pertinent literature and need for research, it is anticipated that much of the data collected will come from perceptions of individuals.

Consequently, the paradigm deemed to best fit this research topic is broadly interpretivist, which is also, from the author's understanding, the dominant paradigm in the topic's research field. As most studies designed under an interpretative paradigm, this research will be conducted in a natural location (the workplace) and because the interest is on exploring the complexity of the phenomenon, there will not be an attempt to control any characteristic of the phenomenon under study.

Collis & Hussey sustain that in an interpretative study, the methodology chapter should¹¹⁴⁵ stress the nature and rationale for the chosen methodology before discussing the methods of data collection and analysis. Therefore, after considering the research design rationale, the nature of the topic, and the research approach and selected paradigm; from now on, the research methodology will be discussed. In further sections, the selection of sources of evidence, the conception of the fieldwork and the collection and analysis of the evidence will be discussed.

3.2.6 Research methodology

Once identified the research paradigm, a research strategy¹¹⁴⁶ can be thought about, this means choosing a methodology that reflects the philosophical assumptions of the chosen paradigm. In business research, a methodology¹¹⁴⁷ is an approach to the process of the research, encompassing a body of methods or techniques for collecting and analysing data. As such, a methodology refers¹¹⁴⁸ to the choices to make about cases to study, methods of data gathering, forms of data analysis, etc., in planning and executing a research study. The type of methodology chosen should reflect¹¹⁴⁹ the assumptions of the research paradigm. Although, according to Hussey & Hussey, some methodologies can be used¹¹⁵⁰ under either a positivist or interpretivist paradigm, depending on the assumptions of the researcher.

In this regard, Silverman suggests that methods¹¹⁵¹ are specific research techniques, which are more or less useful, depending on their fit with the theories and methodologies being used and the research topic that is selected. Each research method¹¹⁵² is a different way of collecting and analysing empirical evidence, and each method has its own advantages and disadvantages. Methods are selected¹¹⁵³ because they will provide the best data required to produce a complete piece of research with particular purposes.

Some social science research situations¹¹⁵⁴ may not have a clearly preferred method; however, the basic goal is to consider all the methods drawing according to the given situation. In this regard, multiple methods¹¹⁵⁵ seem to give a fuller picture but multiple sources of data mean that more data-analysis skills will be required. The use of mixed methods¹¹⁵⁶ forces to share the same research questions, to collect complementary data, and to conduct counterpart analysis, permitting the investigator to address more complicated research

questions and collect a richer and stronger array of evidence that can be accomplished by any single method alone.

As a consequence of the above considerations, in the next subsections the selection of the exploratory, informed by case study, methodology in a multiple-case design, with a two-phase and two-method fieldwork design, is justified; and the inappropriateness of other methodological techniques asserted.

3.2.7 Selection of an exploratory, informed by case study, methodology

Having previously identified the paradigm that best fit this research effort, methodologies deemed relevant to the interpretivist paradigm were considered. In the search for the most suitable methodology, particular consideration must be given to the acknowledged nature of the topic to be researched.

This study, as already mentioned, is related to the understanding of interpersonal trust determinants in a defence virtual teamwork environment, with team members coming from different defence organisations. Moreover, the character of the questions to be addressed focus mainly on exploratory 'What' questions, which are a justifiable¹¹⁵⁷ rationale for conducting an exploratory study, with the goal of developing pertinent hypothesis and propositions for further inquiry. Consequently, the case study methodology, argued by Hussey & Hussey to be an example¹¹⁵⁸ of a 'phenomenological methodology', was chosen as the most appropriate to inform the overarching exploratory design of the study, as it is discussed from now on.

According to Yin, a case study is an empirical enquiry¹¹⁵⁹ that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries of the phenomenon and context are not evident. In addition, Collis & Hussey assert that a case study methodology is used¹¹⁶⁰ to explore a single phenomenon in a natural setting, where the context is essential, using a variety of methods to obtain in depth knowledge. Accordingly, case study evidence¹¹⁶¹ may come from different sources, interviews amongst them. Furthermore, five important components of a case study design¹¹⁶² are a study's questions, its propositions, if any, its unit of analysis, the logic linking the data propositions, and the criteria for interpreting the findings.

The distinctive need¹¹⁶³ for case studies arises out of the desire to understand complex social phenomena, allowing the investigator to retain the holistic and meaningful characteristics of real-life events. In this regard, a major strength of case study data collection¹¹⁶⁴ is the opportunity to use many different sources of evidence. Moreover, the case study¹¹⁶⁵ is preferred in examining contemporary events when relevant behaviours cannot be manipulated, allowing the technique of interviewing persons involved in the events.

According to Yin, there are four common concerns¹¹⁶⁶ about the case study method, which teach that good case studies are still difficult to do: First, a lack of rigour of case study research; forgetting that bias can also enter into experiments, survey questionnaires or conducting historical research. Second,

that they provide little basis for scientific generalisation; where case studies, like experiments, are generalisable to theoretical propositions and not to population or universes. Third, that they take too long, and end in massive unreadable documents; this may be appropriate, but this is not necessarily the way case studies must be done in the future. Lastly, case studies cannot address establishing causal relationships; which is a characteristic of nonexperimental methods.

It is argued that rare, critical, and revelatory cases are likely to involve¹¹⁶⁷ only single cases. In case studies¹¹⁶⁸, the richness of the phenomenon and the extensiveness of the real-life context require the use of multiple sources of evidence, with data needing to converge in a triangulating fashion making case study research a 'hard' form of research. Moreover, the same study may contain more than a single case¹¹⁶⁹, using a multiple case design, which has increased in frequency in recent years.

According to Yin, most multiple case-study designs¹¹⁷⁰ are likely to be stronger than single-case designs. Evidence from multiple cases is often considered¹¹⁷¹ more compelling, and the overall study is therefore regarded as being more robust. Furthermore, there are substantial analytical benefits from having multiple cases¹¹⁷²: analytical conclusions will be more powerful than those coming from a single case and to blunt fears about uniqueness or artifactual conditions surrounding a single case.

Multiple case studies can be conducted to arrive¹¹⁷³ at broad generalisations based on case study evidence, drawing a single set of 'cross-case' conclusions, without presenting any of the individual case studies separately. In addition, some case study research goes beyond¹¹⁷⁴ being a type of qualitative research, by using a mix of quantitative and qualitative evidence. In multiple case designs, a further question has to do with the number of cases¹¹⁷⁵ deemed necessary or sufficient, which depends upon the certainty the researcher want to have about the results. In this regard, the simplest case study design¹¹⁷⁶ would be the selection of two or more cases that are believed to be direct or literal replications of conditions from case to case. In the case of the employment of complementary methods involving the use of case studies, the case study questions are likely¹¹⁷⁷ to be closely coordinated with those of the other methods, but the initial analysis and report from each enquiry should be conducted independently. Finally, a major insight is to follow a 'replication' design¹¹⁷⁸ that is to consider multiple cases as multiple experiments, in order to the findings be considered robust. In this regard, an important step in the replication procedure is to develop a rich theoretical framework¹¹⁷⁹, which becomes the vehicle for generalising.

Saunders maintains that it will be impossible¹¹⁸⁰ for a researcher to collect or analyse all the data available owing to restrictions of time, money and often access. Thus, some research questions will require sample data. However, according to Yin, statistical sampling procedures would be misplaced in case studies¹¹⁸¹, as it would require an impossibly large number of cases looking for reflecting the entire universe. Moreover, if a sampling logic¹¹⁸² had to be applied to all types of research; many important topics could not be empirically

investigated. In this regard, non-probability sampling¹¹⁸³ provides a range of alternative techniques based on subjective judgement dependent on the research question and objectives; considering in particular what will be useful, what will have credibility and what can be done within the available resources. Furthermore, what applies in preparation for collecting evidence in multiple case studies is 'screening' candidate cases to be part of the study. The goal of the screening procedure¹¹⁸⁴ is to identify proper cases prior to formal data collection. The screening may consist¹¹⁸⁵ of querying people knowledgeable about each candidate, with a set of operational criteria whereby candidates will be qualified to serve as cases and selecting cases that best fit the replication design.

In addition, case study designs need to maximise¹¹⁸⁶ their quality through validity and reliability. This paramount aspect is discussed further in section 3.6 'Quality of the research design'.

To sum up, the selection of an exploratory, informed by case study, methodology was based on the consideration of a research problem, that needs to explore a complex phenomenon, which is difficult to separate from its context, and where there are very few or no earlier studies to which refer for information. In addition, contemporary events where relevant behaviours can not be manipulated should be explored. Moreover, what is attempted is to make a contribution to general knowledge and theoretical understanding, rather than solve a specific problem. In this situation, perceptions of individuals become central to perform this research under an interpretivist paradigm.

3.2.8 Inappropriate methodologies

This research's exploratory, informed by case study, method was adopted from a number of potential methodological techniques; for example: action research, archival analysis, experiments, focus group and grounded theory. Those alternatives were considered, in coherence with the nature of the topic and the research approach adopted.

Action research, seen as an iterative process aimed at solving a particular perceived problem was discarded because it was deemed unrealistic to expect gathering evidence in the timescale available for this study.

Archival analysis, considering historic data and drawing conclusions from it, was rejected because of the novel nature of the topic under consideration and the difficulties of addressing the pertinent literature about the topic.

Experiments¹¹⁸⁷ in the context of the topic of this research are done when an investigator can manipulate behaviour directly, precisely and systematically. Experimentation is commonly associated with physical sciences and requires the comparisons with a control case or group. Even without considering the ethical implications of using experiments, they do not lend to the circumstances of this research work.

Focus group is a method for collecting data¹¹⁸⁸ whereby selected participants discuss their reactions and feelings, but it is deemed that data collected may not have the breadth and depth sought.

The conception underpinning grounded theory as¹¹⁸⁹ assisting the development of substantive, explanatory models grounded in relevant empirical data, was deemed to require a longitudinal approach, and as such beyond the possibilities of this research. In addition, grounded theory present a number of problems¹¹⁹⁰, one of them is the difficulty of dealing with the considerable amount of data generated and the question of the generalisability of the findings.

In summary, the rationale that motivated the thesis work is to use an exploratory design, informed by case study methodology, to elucidate the underlying process of interpersonal trust formation and maintenance and to use another method, survey questionnaires, to gather a richer, stronger and confirmatory array of evidence about such processes. In addition, considering the nature of the topic selected, the academic setting of this research, and the resources available to pursue this research effort, a cross-sectional instead of a longitudinal study will be carried out.

3.3 Selection of sources of evidence

Before selecting the 'cases' as such, it is necessary to define the unit of analysis and to identify the proper organisation and level to ask for authorisation to access the sources. Access can impact¹¹⁹¹ upon the ability to select participants in order to attempt to answer the research question and meet the research objectives in an unbiased way and to produce reliable and valid data.

Collis & Hussey suggest that once chosen a research problem and identified the purpose of the research, the next task¹¹⁹² is to determine the unit of analysis, which is where the phenomenon under study is discernible, about which data are collected and analysed. In this regard, the definition of the unit of analysis helps to determine¹¹⁹³ the scope of the data collection and to distinguish between data about the phenomenon from data part of the context. As a general guide, the definition of the unit of analysis¹¹⁹⁴ is related to the way initial research questions are defined. Consequently, although the inquiry is performed at an individual level, the unit of analysis identified in this research effort is the VT, i.e. the CPG.

Saunders et al categorise organisational concerns¹¹⁹⁵, when granting access to researchers, into three types. Firstly, concerns about the amount of time and resources to be involved in the request for access; secondly, about the sensitivity of the topic in terms of likely negative implications for the organisation; and thirdly, confidentiality of the data that would have to be provided together with the anonymity of the organisations and individual participants. In this regard, this research effort demanded in the phase I interviews lasting around one hour each, which were processed following standard MOD's procedures. In addition, sensitivity and confidentiality issues are discussed in the subsection 3.7.1 'Ethics towards the sources' and the section 3.8 'Limitations of the research'. Consequently, it is deemed that the

potential organisational concerns should be addressed during the initial contacts and also covered in the introductory letter to the sources and interviews protocol as further explained in 3.5.1.3.2 'Key-informants phase through semi-structured interviews'.

As it has been made apparent, the sources of evidence were located within the MOD's organisations that comprise the MUC. The majority of the individual members belong to different suborganisations, other than the Capability Sponsor, the point of contact for this research effort. Subsequently, the sources were identified and accessed through the Head of Capability Improvement, entity that sits under the MOD's Capability Sponsor. The Head of Capability Improvement has under his responsibilities¹¹⁹⁶, amongst others, to own and maintain TLM processes, guidance and procedures, and sponsor associated training.

3.3.1 Criteria for selection of 'cases'

In consistency with the idea of the use of an exploratory design, informed by case study methodology, in a multiple-case approach, CPGs were selected under the discussed rationale of the replication logic, and according to the following criteria:

- Those CPGs whose personnel have been in post the longest, where it is expected to find illustrative experience in virtual teamworking;
- Where the CPG is an 'active' forum, i.e. where MUC stakeholder engagement is frequent and where problem solving and decision-making is a routine activity, and;
- CPGs recommended by relevant levels from the MOD Capability Sponsor's Capability Improvement Branch, based on expert opinion.

Having applied these criteria to the CPGs within the MOD Capability Sponsor, five CPGs were selected, which account for about 17% of the total number of CPGs (five out of twenty-nine). Even though the composition of CPGs is standardised, from the outset it is noteworthy that the nature and dynamics of their work can be substantially different. Although the role and responsibilities of the CPGs are similar, all of them cover different capability areas, (as illustrated in Chapter 1), with different scopes in nature, which can evolve through time in diverse manners, for example: relevant technologies change pace, applicable threat evolution rate, speed of pertinent policies or management approaches development, etc.

Because of ethical issues, regarding ethics toward the sources, and in the development of the research, which will be discussed in the section 3.7 'Ethical issues', the CPGs will be named as CPGs numbers 1 to 5.

3.3.2 Selection of individuals

After selecting the cases, according to the mentioned criteria, it was necessary to identify the individuals within the CPGs that were going to take part in the

fieldwork. For the first phase of the fieldwork, developed next in section 3.4 'Conception of the fieldwork', encompassing semi-structured interviews, two considerations were deemed relevant. Firstly, the visibility and degree of involvement in the phenomena. Secondly, the representativeness of the different organisational perspectives along the CPGs chosen.

A number of CPGs were selected, according with the enunciated criteria, that covered different capability planning areas, because these were deemed to have higher visibility over and degree of engagement in virtual teamwork, and therefore involved in the interpersonal relationship phenomena. Moreover, they were expected to provide a wide-ranging view of the interaction between CPG members when performing virtual teamwork. Furthermore, as representatives from different organisations integrate the CPGs, a cross-functional perspective was expected. Under the rationale of this research, those participants act as key informants. The number of participants interviewed and their origin organisations are presented in Table 3-1.

Table 3-1 Interviewees per case

Case	Capability Sponsor	MOD Head Office	User	DE&S	Science, Innovation & Technology
CPG 1	1	1	1	1	1
CPG 2	1	1	1	1	1
CPG 3	1	1	1	1	1
CPG 4	1	1	1	1	1
CPG 5	1	1	1	1	1
Total	5	5	5	5	5

Source: Author

The limitations to the research regarding the constraint to access individuals will be discussed further in section 3.8 'Limitations of the research'.

Regarding the individuals surveyed in the second phase of the fieldwork, 267 questionnaires were distributed to each of the members of the twenty-nine CPGs. The rate of response was 27%. In any case, it must be pointed out that according to the conception of the research the second phase was conceived to gather a richer and stronger array of evidence, and to combine qualitative research with quantitative measurers of population; in order to draw more robust conclusions and to underpin the achievement of generalisability.

Taking into account the set of criteria employed for the selection of the CPGs, whose members were interviewed in the first phase of this study, the requirements of screening are attained, and replication considered. First, the number of selected cases is deemed adequate, achieving a balance between the resources available, which is the researcher, and an academic timeframe;

and the need to achieve generalisability to some extent. Second, the interviewees belong to the CPGs selected based on expert opinion, then they have been in post the longest and have been active, and as such are best positioned to present a perspective about the phenomena under study. Furthermore, in the second phase, the survey questionnaires are addressed to all personnel involved in virtual teamwork in capability planning.

In every case, the sources of evidence belong to the organisations involved in capability planning through the MUC. Through this perspective, it is deemed that a necessary inclusive approach has been undertaken.

3.4 Conception of the fieldwork

3.4.1 Phases of the fieldwork

So far, the framework for research has been structured and the research methodology to be employed discussed, making some fundamental decisions for this study. Those decisions have encompassed initially the research strategy, entailing the research design rationale, approach, paradigm and methodology. Subsequently, the sources of evidence were selected. Consequently, before progress to the collection and analysis of the evidence, the conception of the fieldwork need to be settled.

An important consideration taken into account when planning the fieldwork, were the potential limitations to collecting evidence, set by the nature of the defence sector activities. Those complexities are articulated in section 3.8 'Limitations of the research'. In this regard, several factors were deemed to have the potential to impact the fieldwork activities. However, as it has been made explicit in this chapter, it is clearly necessary to collect quality evidence notwithstanding those constraints. Consequently, limitations were identified from the outset and considered during the research design and plan, in order to avoid negative impact over the research effort.

The basic idea of the fieldwork was envisaged in two phases, under an exploratory multiple-case design. At first, a set of semi-structured interviews to key informants; followed by the application of structured questionnaires to the population under consideration. This approach under an interpretivist paradigm, increase the robustness of the overall study, allowing to elaborate from perceptions gathered in the set of interviews, throughout the use of more structured tools, questionnaires, in the second and final phase. As a whole, this design is intended to facilitate the underpinning of more powerful conclusions.

Phase I was concentrated on the capture of perceptions of key informants in selected CPGs. Those perceptions set up the basis for the development of a further instrument to be applied to all the members of the CPGs, i.e. covering the whole population. In Phase II, the focus was on depicting the views of the members of the CPGs, based upon the perceptions gathered during the first phase. This second phase was aimed at confirm and provide insights about key issues identified through the interviews, achieving in this manner more robust findings.

The fieldwork is discussed in section 3.5.1 'Collection of the evidence', and commented in further detail in the subsections 3.5.1.3 'Phase I: semi-structured interviews to key informants' and 3.5.1.4 'Phase II: survey questionnaires'.

3.4.2 Considerations during the design of the fieldwork

From the outset, some considerations about potential sources of difficulties were acknowledged, and taken into account during the research's fieldwork design stage, in order to avoid any negative impact in the subsequent progress of the research work.

First, the exploratory nature of this research topic. Research about 'interpersonal trust determinants in VTs in an interdisciplinary, interorganisational defence context' is novel and in an embryo stage. This aspect has been discussed previously and limited the evidence to perceptions from individuals. An additional consideration is, as discussed previously, the dominating fragmented perspective at a detailed level of the topic that confounds attempts to operationalise this concept. Second, military confidentiality which imposes a twofold challenge. To gain access to the proper sources of evidence and to encourage people to express their views freely, where information could be either not disclosed or partially released. Third, the potential threatening, 'embarrassing' or 'socially undesirable' connotation for the respondents of some behaviours is also likely to affect the expression of individual's perceptions if the inquiry includes their own performance. Fourth, the exploratory, informed by case study, methodology in a multiple-case approach based on interviews is deemed to be source of high amounts of information. Thus, a balance between breadth and depth as evidence is collected is deemed to be another consideration in order to achieve a sound balance.

Arguably, fieldwork is permeated¹⁹⁷ with the conflict between what is theoretically desirable and what is practically possible. However, the effect of those potential sources of difficulties can not be estimated precisely, although it is deemed possible that they exert influence to some extent. With these points in mind, this research effort is particularly aimed at exploring the interpersonal trust determinants in the context of virtual teamwork in capability planning in the UK's MOD environment. Therefore, keeping in mind the mentioned challenges faced in research in the capability planning arena, it is intended to produce a piece of research which can inform management activities influencing those trust determinants, increasing the probability of success of capability planning activities, where the results of such research will be most useful. Thus, if the research offers pointers that may improve capability planning performance (and, hence, interpersonal trust in those virtual teams), then it is likely that these will be beneficial.

3.4.3 Progress through the fieldwork

As the fieldwork progressed though Phase I, the data obtained underpinned the emergence of patterns from the interviews. Because of high operational and managerial constraints, it was much more difficult than expected to access the

sources and complete the interviews programme planned. Firstly, the analyses and study work post publication of the Strategic Defence and Security Review (SDSR), in October 2010; and then, the NATO's operation Unified Protector, which lasted from February to October 2011, superimposed with the fieldwork (November 2010 – May 2011). Moreover, a number of additional MOD's analyses, reviews and examinations, related to acute budgetary problems, were underway when the fieldwork was executed. These constraints disturbed either the CPG members' core everyday jobs or their capability planning responsibilities, making more difficult to arrange the programme of interviews. In addition, to uncover potential problems or concerns to a foreign military researcher proved to be difficult, and occasionally positive views proliferated.

From the researcher's perspective, it became clear that the possibility of accessing examples or reviewing internal documentation was restricted. In this regard, and considering the evidence collected through the interviews, it was clear for the researcher that the application of a subsequent questionnaire would satisfy the needs of the research. In addition, it was apparent that support at the highest level was necessary to obtain the level of response and richness of data required in the Phase II, in the tight timeframe of the fieldwork. Consequently, access and support was requested at the highest level possible, the Deputy Chief of Defence Staff (Capability), (DCDS(Cap)), Vice Admiral Paul Lambert. In addition, he subscribed a supporting letter encouraging respondents, contending the usefulness of this research, and ensuring anonymity.

Subsequently, the survey questionnaire gathered qualitative information that was approached fundamentally from a phenomenological perspective as discussed in the next section.

3.5 Collection and analysis of the evidence

After selecting an exploratory design, informed by case study methodology, discussion of the two-phases fieldwork conception, and before addressing the topics of quality of the research design, ethical issues and the study's limitations; the collection and analysis of the evidence have to be considered. In this regard, according to Yin, the components¹¹⁹⁸ of a case study design are the study's questions, its propositions, if any, its unit of analysis, the logic linking the data propositions, and the criteria for interpreting the findings. This is the structural rationale followed in this research, where the questions have been enunciated, there are no propositions, the unit of analysis is the VT, and a framework for research has become apparent from the literature review and the interpretations of the researcher. Consequently, from now on, in this section, the collection and analysis of the evidence will be discussed.

First, the link between the research questions and the outputs of the phase I of the fieldwork through 'How', 'Who' and 'What' type of enquiries is presented. Thus, the organisation of the data gathered in five clusters is shown. Then, the outputs of Phase I are developed into target areas to be inquired through survey

questionnaires in Phase II of the fieldwork. In a second subsection, the strategies and techniques to analyse the data are discussed and justified.

Therefore, in this section, the underpinning for data collection and analysis of the evidence activities is deemed to be substantiated. Further, in the next section 3.6 'Quality of the research design', the design and activities to address quality requirements are considered.

3.5.1 Collection of the evidence

The collection of evidence in social sciences takes three principal forms: observation, questioning and the study of artefacts such as documents. In this study, two of these techniques are utilised. A range of documentation from academic and practitioner's streams was examined, and participants were questioned when interviewed and through survey questionnaires. In addition, according to Yin, three principles¹¹⁹⁹ of data collection in case study, which can help to establish validity and reliability of the case study evidence, are the use of multiple sources of evidence, creating a case study database and maintaining a chain of evidence. Those principles have been taken into account in this research design and subsequent execution. Data has been gathered from academics and practitioners, and archival analysis has been performed; a complete file classification and storage procedure has been followed with the written and audio material as well as the analyses and progress of the thesis work; and a chain of evidence has been maintained and made explicit through the work.

Bell suggests that methods¹²⁰⁰ of data collection are selected because they will provide the data required to produce a complete piece of research. In this regard, case studies¹²⁰¹, generally considered qualitative studies, can combine a wide range of methods, including quantitative techniques to collect evidence. A consideration is the extent of the data collection, which will be influenced¹²⁰² by the amount of time available; although, efforts should be made to cross-check findings and to use more than a method of data collection. According to Saunders et al, the key point¹²⁰³ to consider is the consistency between the research questions and objectives, the strategy to be employed, and the adequacy of the methods for data collection to be used.

In this regard, Collis & Hussey sustain that the contextual framework is critical¹²⁰⁴ to understand qualitative data collected and to aid in the interpretation. In this regard, qualitative data¹²⁰⁵ are normally understood within context and are associated with an interpretative methodology that usually results in findings with a high degree of validity. Therefore, since qualitative data need to be understood within a context¹²⁰⁶, contextualisation by means of collecting some background information, mainly in the literature, is required first. Consequently, during the preparation of the fieldwork, exploratory interactions were held with persons involved in capability planning from practitioner's and academic's perspectives. The former with staff members from the Capability Improvement Branch within the MOD's Capability Sponsor, and the latter with academics from Cranfield University. Cranfield University staff run TLM

courses, through the Centre for Defence Acquisition, aimed at¹²⁰⁷ providing members of the capability management fora with process knowledge, and to increase their awareness of thinking skills necessary to perform their roles, to high-level members; and to prepare¹²⁰⁸ Capability Sponsor and other personnel for employment in Capability Management, to practitioners. In addition, in Phase II of the fieldwork, some data served to provide a general description of the CPGs and to clarify some influential elements regarding interpersonal trust in the CPGs.

Those activities provided valuable insights, which oriented the work, and allowed the identification of stakeholders that orientated the search of the sources of evidence. In addition, they proved to be essential to understand the data gathered and to underpin the subsequent integrated analysis and discussion of the findings. This exploratory scheme allowed gathering issues that were deemed of fundamental relevance and gave insights about topic areas that deserved further analysis and those less important, including key aspects for the subsequent data analysis.

3.5.1.1 The enquiry

As already mentioned, in Section 3.1 'Introduction', the research objective oriented the statement of the next research questions:

1. What are the pertinent determinants of interpersonal trust in the CPG?
2. What, if any, are the issues surrounding those determinants within the CPG?
3. What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members?

These questions involve 'How', 'Who' and 'What' type of enquiries, which is reflected in the subsequent collection and analysis of the evidence. Accordingly, this rationale, which is depicted in Figure 3-5 'Rationale linking from research questions to outputs of Phase I', will be recurrently utilised to guide the fieldwork:

'How' type enquiry, about general perceptions about influential elements pertaining to the nature of interpersonal relationships and the performance in the CPGs, and the way they are linked over time with interpersonal trust.

'Who' type of enquiry, about the pertinent interpersonal trust determinants to each type, in order to understand the extent to what the participating members are influenced by conditioning elements.

'What' type of enquiry, about the issues, and risks beyond interpersonal relationships, which constitute challenges, regarding interpersonal trust that would require actions to be planned and implemented.

This rationale of 'How', 'Who' and 'What' will be recurrently utilised from now on, in order to guide the process of data collection and analysis. Next, the two-phase fieldwork design is described and discussed, before addressing the discussion of the process of analysis of the evidence, to conclude this section.

3.5.1.2 Phase I: semi-structured interviews to key informants

3.5.1.2.1. Interview as a tool for collecting data

Collis & Hussey suggest that an interview is a method¹²⁰⁹ for collecting primary data in which selected participants or a sample of interviewees are asked questions to find out what they think, do or feel. In this regard, interviews¹²¹⁰ permit the asking of complex questions and ask follow-up questions, which is not possible in a self-completion questionnaire. Moreover, Arksey & Knight argue that under an interpretative paradigm¹²¹¹, interviews are concerned with exploring 'data on understandings, opinions, what people remember doing, attitudes, feelings and the like, that people have in common'. In addition, Saunders et al maintain that interviews can help to gather¹²¹² valid and reliable data relevant to a research question and objectives. Furthermore, Yin argues that interviews are an essential source¹²¹³ of case study evidence, because most case studies are about human affairs or behavioural events.

Interviews offer the advantage¹²¹⁴ that response rates can be fairly high and comprehensive data can be collected. Moreover, open questions offer the advantage¹²¹⁵ that the respondents are able to give their opinions as precisely as possible in their own words. In addition, in semi-structured interviews¹²¹⁶, some of the questions are prepared, but the interviewer is able to add additional questions to obtain more detailed information about a particular answer or issue that arise from an answer. This is important from an interpretivist paradigm's perspective, concerned¹²¹⁷ with understanding meanings that participants ascribe to various phenomena.

On the other hand, Yin suggests that the weaknesses of interviews¹²¹⁸ are bias to poorly articulated questions, response bias, inaccuracies due to poor recall and reflexivity where the interviewee gives what the interviewer wants to hear. From his perspective, a reasonable approach in this regard is to corroborate¹²¹⁹ interview data with information from other sources. Furthermore, Collis & Hussey sustain that the potential problem¹²²⁰ for interviews of interviewees giving 'correct' or 'acceptable' answers can, to some extent, be overcome by increasing the depth of the interview. In addition, Silverman sustain that besides those disadvantages, some qualitative interview studies¹²²¹ may lack the analytical imagination to provide anything more than anecdotal 'insights'. In this regard, the pursuit¹²²² of people's 'experience' by no means constitutes an adequate defence for the use of open-ended interviews.

Increasingly, questionnaires and interviews are limited¹²²³ to expressions of attitudes, feelings and opinions rather than to factual accounts of past behaviours and interactions. In semi-structured interviews¹²²⁴, interviewees may use words and ideas in a particular way, and the opportunity to probe these meanings will add significance and depth to the data obtained. In any case, unstructured or semi-structured interviews are suggested¹²²⁵ to be more appropriate when it is necessary to understand the context used as a basis for opinions and beliefs, when the development of an understanding is the aim of the interview, when the logic of a situation is not clear, when the subject matter is highly confidential or commercially sensitive and, when the interviewee may

be reluctant to be truthful about an issue other than confidentially in a one-to-one situation. All of these conditions are deemed to be present in this research's context and underpin the decision made of utilising semi-structured interviews in this first part of the fieldwork.

3.5.1.2.2. Key-informants phase through semi-structured interviews

The interviews were conducted with a number of individuals from the selected CPGs. An introductory letter was supplied to them in advance. The introductory letter, attached in Appendix A, explained the objective of the research, a very brief account about the topic, what was required and from whom, and the voluntary and confidential nature of the interview, including the specific questions to be asked. The content of the letter was deemed relevant to contribute to the development of a better understanding of the interviewee regarding the intentions and objectives of the interviewer and, in this manner, to increase the prospective to receive answers that were more significant.

The overall intent of the first phase was to understand how interpersonal trust is generically perceived. Specifically the purposes were:

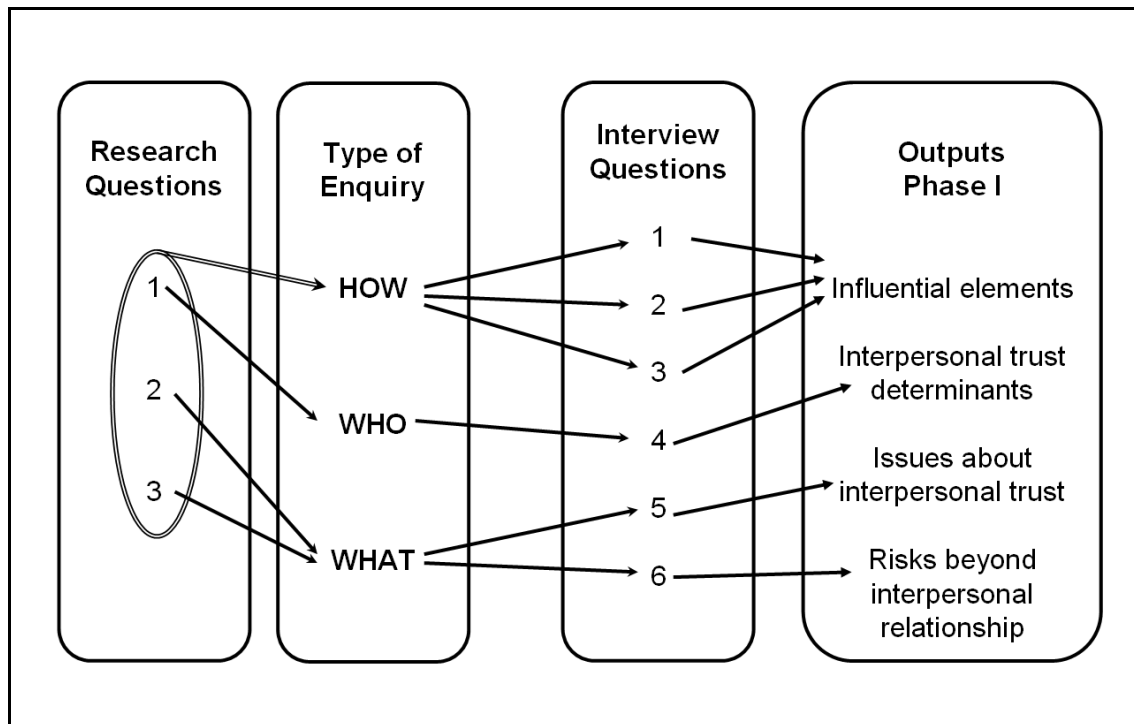
- Confirm or identify the pertinent determinants of interpersonal trust in the CPGs, in order to understand the extent to what the participating members are influenced by conditioning elements.
- Explore and identify the issues, regarding interpersonal trust that would require actions to be undertaken, in order to understand potential areas for improvement.
- Explore and identify the risks beyond interpersonal relationships, regarding interpersonal trust that would require actions to be undertaken, in order to understand potential areas for improvement.

Consequently, the following questions were asked of the interviewees:

1. Based in your experience, what do you believe is your role in the CPG?
2. What is your general perception about the performance of the CPGs?
3. What is your general perception about the interpersonal relationships between members in the CPG?
4. What are the factors that determine interpersonal trust in the CPG context?
5. What would be, if any, the issues that need to be addressed within the CPGs regarding the trust determinants?
6. What, if any, are the risks beyond of the interpersonal relationship that could influence the trust behaviour of the VT members?

The Figure 3-5 shows the relationship between the research questions, the type of enquiry that they represent, the interview questions, and the subsequent outputs of phase I.

Figure 3-5 Rationale linking from research questions to outputs of Phase I



Source: Author

During the interviews, careful consideration was given to avoid bias in the emergence of answers of the interviewee; therefore, intervention after each question was kept to a minimum. From the outset, a protocol for interviews specifically prepared, attached in Appendix B, was followed. Despite the intrinsically wide nature of the inquiries, not element was presented to the interviewees as a way of introduction to any question.

Processing the data from the interviews

Saunders et al maintain the need¹²²⁶ to create a full record of the interview soon after its occurrence as one of the means to control bias and to produce reliable data for analysis. Thus, audio records of the interviews were transcript after every interview, together with notes about contextual data, facial expressions and other non-verbal cues, in order to record the precise nature of the explanations provided and to avoid missing valuable details. The data collected through the interviews was organised around the rationale presented in 3.5.1.2 'The enquiry', in consistency with the overall intent of understanding how interpersonal trust is generically perceived, from the answers given by the interviewees. Thus, following the basic conceptual framework enunciated in the lines of enquiry, as a consequence of the research questions stated in 3.1.1 'Research problem', it is deemed that outcomes of this phase flew harmonically leading to the definitive design of the next fieldwork phase.

The interviews were concentrated on gathering perceptions and to contextualise those perceptions to aid in the further interpretation of the data collected. The

general approach in considering observation of the conduct of the interviews was:

- Perceptions concerning the role of CPG members
- Perceptions about performance, and aspects deemed of a positive, negative or neutral connotation
- Perceptions about interpersonal relationships, and aspects deemed of a positive, negative or neutral connotation
- Interpersonal trust determinants, as perceived by individuals from different organisations, and determinants' level of relevance
- Issues regarding interpersonal trust that would require actions
- Risks beyond interpersonal relationships regarding interpersonal trust that would require actions
- Additional aspects perceived

Organisation of the data

The data gathered in this phase was coded following the 'How', 'Who', 'What' rationale, in five clusters in order to facilitate data processing during the analysis:

How

Cluster 1. Perception about performance

- Aspects mentioned and positive, negative or neutral comments

Cluster 2. Nature of the interpersonal relationships

- Aspects mentioned and positive, negative or neutral comments

Who

Cluster 3. Interpersonal trust determinants, as perceived by individuals from different organisations, and determinants relevance in terms of high, low or no relevance.

- Determinants perceived, level of relevance, and positive, negative or neutral comments

What

Cluster 4. Existence or non-existence of issues, regarding interpersonal trust, that would require actions to be planned and implemented.

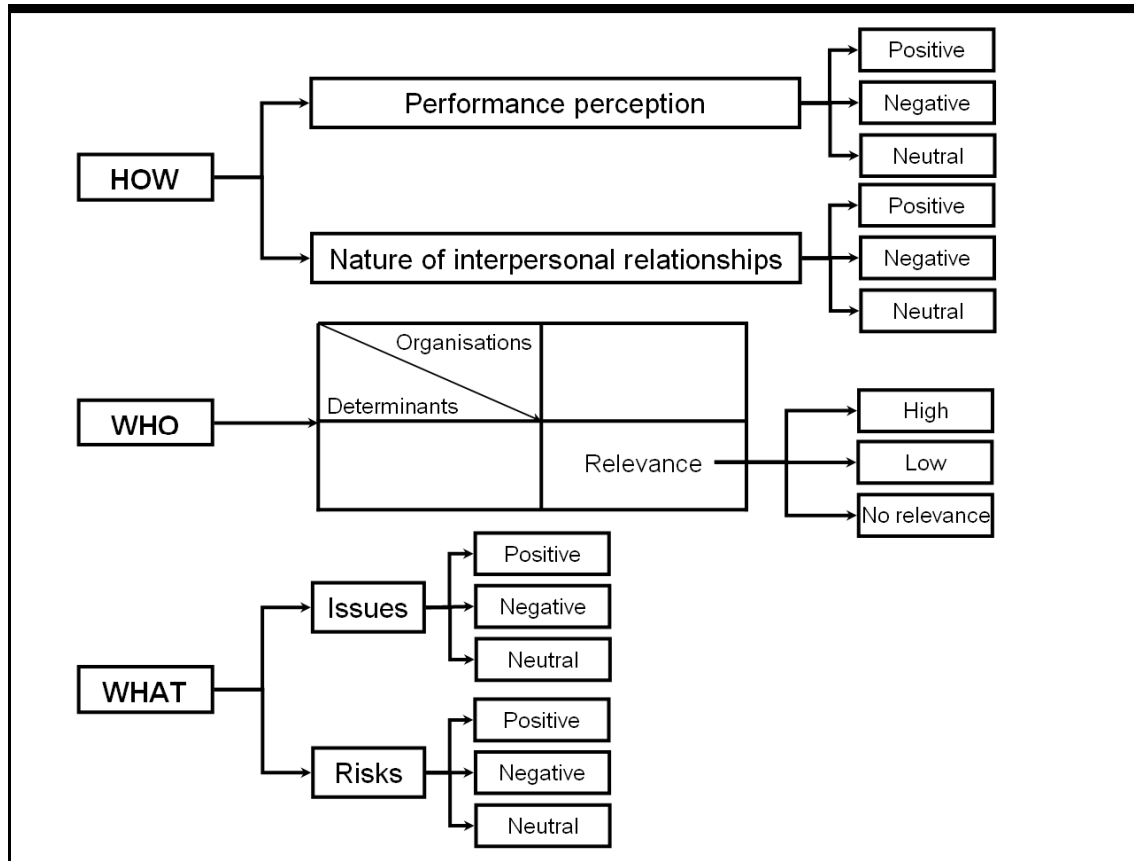
- Aspects deemed positive, negative or neutral.

Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust that would require actions to be planned and implemented.

- Aspects deemed positive, negative or neutral.

This data organisation was intended to explore in a comprehensive manner aspects that were expressed by the interviewees in their answers and consequently to serve as the basis for the data interpretation. Figure 3-6 depicts the organisation of the data coming out of Phase I.

Figure 3-6 Organisation of Phase I data



Source: Author

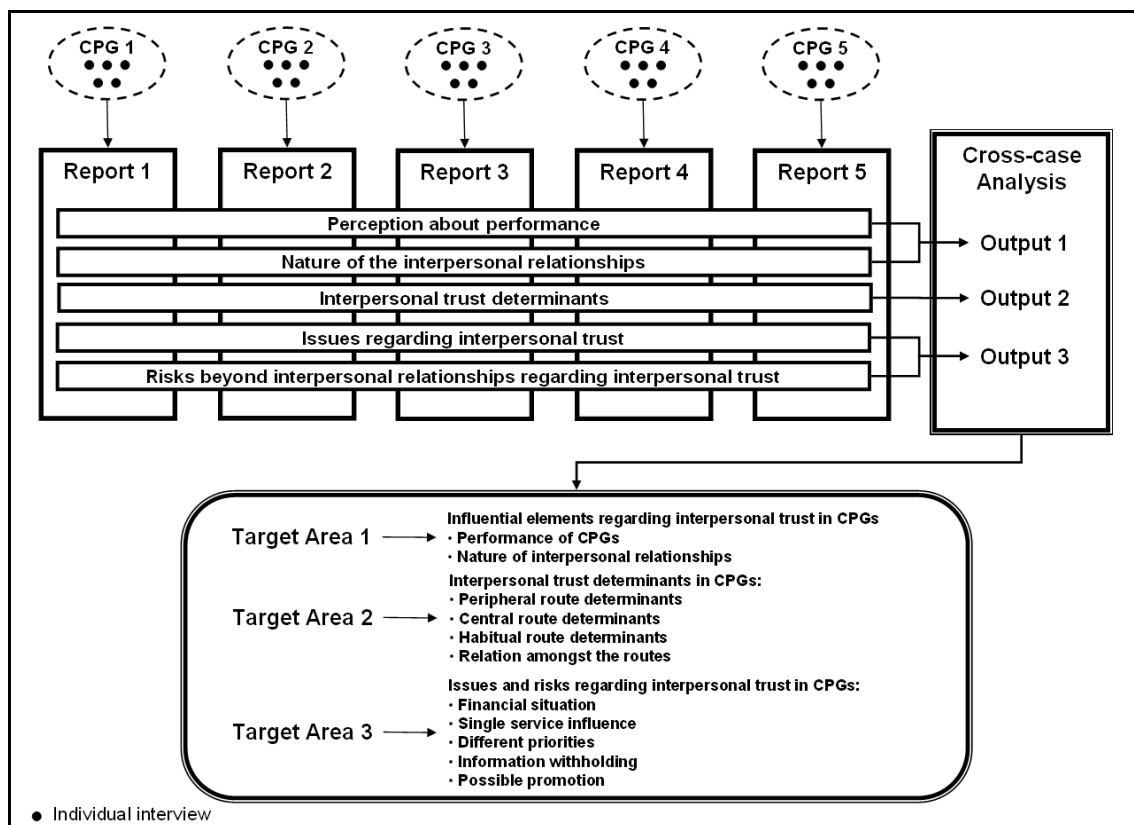
3.5.1.3 Phase II: survey questionnaires

The analysis and interpretation of the evidence collected in Phase I in a cross-case analysis, was organised around three outputs: Influential elements, Interpersonal trust determinants, and Issues and risks regarding interpersonal trust. Consistent with this view, this second phase was structured around three target areas, as shown in Figure 3-7, intended to confirm and / or incorporate new evidence, as follows:

- Target area 1: Influential elements regarding interpersonal trust in CPGs
 - Performance of CPGs
 - Nature of interpersonal relationships
- Target area 2: Interpersonal trust determinants in CPGs
 - Peripheral route determinants

- Central route determinants
- Habitual route determinants
- Relation amongst the routes
- Target area 3: Issues and risks regarding interpersonal trust in CPGs
 - Financial situation
 - Single service influence
 - Different priorities
 - Information withholding
 - Possible promotion

Figure 3-7 Rationale linking from Phase I to target areas in Phase II



Source: Author

The target areas devised followed the organisation presented in Figure 3-6, through the How, Who and What types of enquiry already discussed, while simultaneously incorporating specifics aspects within each target area, as it was examined from now on.

3.5.1.3.1. Questionnaire survey as a tool for collecting data

The second phase of the fieldwork considered the use of survey questionnaires, as argued in 3.4.1 'Phases of the fieldwork', in order to increase the robustness of the study and to underpin more powerful conclusions. It allowed making use of survey questionnaires advantages, confirming and providing insights about key issues identified, without the limitations of this method that were deemed to be avoided through the two-phase and multiple-case design followed. This design provides a methodological triangulation¹²²⁷ where more than one method is used to collect and/or analyse the data. In this regard, the Collis & Hussey contention about the importance of choosing the methods from the same paradigm was followed, combining exploratory interviews to identify key issues and provide insights into the issues, before conducting a questionnaire survey. This two-phase design, in particular, was deemed relevant as Saunders et al maintain that for research involving organisations it is essential¹²²⁸, to understand the organisations in which the research is undertaken.

According to Collis & Hussey, a survey¹²²⁹ is a methodology designed to collect primary or secondary data from a sample, with a view to generalising the results to a population. In addition, Hussey & Hussey suggest that a questionnaire¹²³⁰ is a list of carefully structured questions, chosen after considerable testing; with a view to eliciting reliable responses from a chosen sample. Besides, Saunders et al sustain that the questionnaire¹²³¹ is one of the most widely used data collecting techniques within the survey strategy, where each respondent is asked to respond the same set of questions.

Regarding advantages and disadvantages of the method, a questionnaire survey¹²³² is cheaper and less time-consuming than conducting interviews and very large samples can be taken. In addition, survey data are standardised¹²³³, allowing easy comparison. However, data collected by survey is unlikely to be as wide-ranging¹²³⁴ as those collected by other methods are. In this regard, surveys ability¹²³⁵ to investigate the context is extremely limited.

A survey methodology can be used in an interpretivist study, where selecting a sufficiently large and unbiased sample¹²³⁶ for the survey is not crucial, because the aim of the research is not to generalise to the population, but to gain insights from the cases in the sample. Moreover, for most management and businesses research¹²³⁷, data collected using questionnaires will be used for either descriptive or explanatory purposes, with questions describing the population's characteristics. Furthermore, Saunders et al maintain that although questionnaires¹²³⁸ may be used as the only data collection method, it may be better to link them with other methods in a multiple-methods research design.

Further, when reaching the stage of designing a questionnaire, Bell suggests¹²³⁹ going back to the objectives and to decide which questions need to be asked to achieve these objectives. The need is to produce a well-designed questionnaire¹²⁴⁰ that will produce the information needed, that will be acceptable to the subjects and that will not give problems at the analysis and interpretation stage. The design of the questionnaire will affect the response rate and the reliability and validity of the data, which can be maximised by¹²⁴¹:

- Careful design of individual questions;
- Clear and pleasing layout of the questionnaire;
- Lucid explanation of the purpose of the questionnaire;
- Pilot testing;
- Carefully planned and executed administration.

Internet and intranet-mediated questionnaires¹²⁴², and in particular those administered in conjunction with e-mail, offer better reliability of responses because most users read and respond to their own mail at their personal computer. This latter alternative, the administration of the survey questionnaire via email, was possible as the support at the highest hierarchical level, DCDS(Cap), granted access to the CPG's Directory including the CPG members' names and email addresses.

3.5.1.3.2. Survey questionnaire: confirming and expanding evidence

In order to ensure that essential data are collected, a data requirements table was prepared, following the process suggested by Saunders et al, to enable¹²⁴³ the research questions to be answered and the objectives achieved, including only data essential to answering the research questions and meeting the objectives. In general, the survey questionnaire was organised in four sections, based mainly on closed questions with verbal ratings, (i.e. Likert scales), ranging from 'strongly agree' to 'strongly disagree'. Filters¹²⁴⁴, as suggested by Foddy, were used to avoid forcing respondents to answer even if they felt a lack of the necessary experience or information to provide a response. In addition, some complementary ranking questions were asked, in order for respondents to indicate the relative relevance, or level of influence, of some elements presented.

The construction of the questions was based on the results of the previous data-gathering phase, and its subsequent analysis, which is located in the subsequent Chapter 4. This cross-case analysis, resulted in an understanding of the dimensions perceived by the interviewees regarding what were identified at that stage as target areas: Influential elements regarding interpersonal trust in CPGs, Interpersonal trust determinants in CPGs, and Issues and risks regarding interpersonal trust in CPGs. Furthermore, in the construction of the questions, there were included empirical referents when possible (i.e. avoiding abstract words). Although a certain level of under-reporting of threatening, 'embarrassing' or 'socially undesirable' topics or behaviours was deemed unavoidable and part of the weaknesses of the collecting technique selected. Subsequently, the questionnaire was pre-tested to ascertain that respondents would understand the questions, and that the answer categories provided appropriate response options, making sense of the respondents scope to answer, reflecting the 'respondents worlds' and language. The enquiries in the questionnaire had mainly a positive connotation.

In order to gain access to the sources, support was requested at the highest level possible. The DCDS(Cap), a Vice Admiral, granted access to the CPGs members together with signing a supporting letter encouraging respondents to answer the questionnaire, contending the usefulness of the research effort undertaken, and the anonymity involved in responding to that. The arguments of relevance and anonymity were intended to stimulate the addressees' willingness to cooperate. Subsequently, a number of email addresses were gathered, and survey questionnaires were distributed attached to an introductory e-mail that had attached the already mentioned Admiral's supporting letter as well. The supporting letter from the DCDS(Cap) is in Appendix C.

To reduce question threat, anonymity was assured in three ways, although some additional measures were also taken. First, in an introductory e-mail; then, in a supporting letter from the DCDS(Cap); and in the survey questionnaire itself. With the same end, a 'knowing' or direct approach, and projective techniques were used. In addition, questions that could have been perceived as having a threatening, 'embarrassing' or 'socially undesirable' connotation, were placed further in the questionnaire as they were covered in the Sections 3 and 4. Moreover, through the questionnaire, the respondents were also asked to provide any additional information that in their views would support or complement the answers.

In the questionnaire, it was emphasised that answers should be stated considering activity regarding CPGs only instead of any other usual or main job, in order to obtain answers useful to the research ends. Furthermore, in the final analysis, consideration was given to the lack of empirical reference of the scales employed, analysing the general trends and the specific distribution of responses along the scales. It was considered that the link between attitudes and behaviour¹²⁴⁵ has never been demonstrated to be very strong, although the Likert scales¹²⁴⁶ have been found to generate scores that correlate most strongly with behavioural outcomes.

From a total of 284 emails sent, 72 answered questionnaires were received over a period of 30 days, 56 electronically and 16 by postal mail. In addition, 17 responses of people said that they were 'not a member of the CPG or had previously attended this forum' were received. Consequently, overall, 27% (72 out of 267) was the actual response rate. However, it should be considered that the respondent's number of CPG membership declared by them, in average, was over two. As there were 29 CPGs at the time of the fieldwork execution, it could be argued that, as an average, about five members of each CPG could have answered the survey. One of the elements realised when recollecting the contact details of the CPG members, was that additional members designated by the pertinent Heads of Capability increased the theoretical representation of the five organisations that integrate the MUC in different CPGs, from 145 to 267.

3.5.2 Analysis of the evidence

A discussion of the analytical process follows in this subsection. Although this discussion may be placed after the presentation of the evidence, it has been deemed that this could distract from the narrative and interrupt the course of the analysis from the evidence. Further, in the next section, the quality of the research design, considering aspects of validity, reliability, and the extent of generalisability claimed is discussed. Subsequently, to close the chapter, ethical issues and limitations of this research are identified and discussed, in the context of this study.

According to Saunders et al, qualitative data is distinguished¹²⁴⁷ because it is based on meaning expressed through words, collection results in non-standardised data requiring classification into categories, and analyses is conducted through conceptualisation; resulting in the need of condensation, and grouping or restructuring as a narrative to support meaningful analysis.

Different authors have sustained that despite the proliferation¹²⁴⁸ of qualitative methodology texts detailing techniques for conducting a qualitative project, the actual process of data analysis remains poorly described. From the outset, Collis & Hussey argue that the purpose¹²⁴⁹ when analysing the data is to find answers to the research questions which have to be kept at the front while conducting the analysis. Furthermore, Yin, states that in simple terms, data analysis consists¹²⁵⁰ of examining, categorising, tabulating, or otherwise recombining evidence, to draw empirically based conclusions.

In addition to the deficiency of literature underpinning qualitative data analysis, there is a lack of agreement regarding the process of qualitative data analysis, which can be exemplified by the consideration of the simultaneous or sequential nature of qualitative analysis. On the one hand, Bogdan & Biklen suggest that, in qualitative analysis several simultaneous activities¹²⁵¹ engage the attention of the researcher: collecting information from the field, sorting the information into categories, formatting the information into a story or picture, and writing the qualitative text. On the other, according to Morse, four cognitive processes¹²⁵², which occur more or less sequentially, appear integral to all qualitative analysis methods: comprehending, synthesising, theorising and recontextualising.

Furthermore, according to Collis & Hussey, a general analytical procedure¹²⁵³ for qualitative data encompass a methodical and systematic process that includes several activities. First, coding the data, allocating specific codes to each theme, word or phrase that need to be identified. Then, the codes can be grouped into small categories, according to patterns or themes that emerge from the data. Further, at various stages construct summaries, using those summaries to construct generalisations. This process should continue until the generalisations are sufficient robust to stand the analysis of existing theories. In this context, the coding activity¹²⁵⁴ allows clustering key issues in the data and allows taking step towards 'drawing conclusions'.

In any case, Yin suggest that potential analytical difficulties can be reduced¹²⁵⁵ having a general strategy for analysing the data, where strategies and

techniques¹²⁵⁶ are not mutually exclusive. Moreover, Yin points out four general strategies for case study data analysis¹²⁵⁷, which are not mutually exclusive: relying on theoretical propositions, developing case descriptions, using qualitative and quantitative data, and examining rival explanations. Arguably, the employment of the second and third strategy, seem to be advantageous when focused mainly on exploratory questions and when qualitative data remain central to the entire case study, respectively. Furthermore, Yin sustain that those strategies can be used in practicing five analytic techniques¹²⁵⁸: pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis. The second technique, mostly in narrative form, is mainly relevant to explanatory case studies; and the fifth applies specifically to the analysis of multiple case studies, treating each individual case as a separate study.

The nature of the analysis in this research work, as a result of the adoption of an interpretivist approach, based on the perceptions, opinion and experiences of individuals, was deemed complex because of the characteristics of the information gathered and its large volume. The general strategies followed were those mentioned and deemed suitable: development of case descriptions, and the use of qualitative and quantitative data. In this regard, Yin emphasises¹²⁵⁹ to attend all of the evidence, displaying and presenting the evidence separate from any interpretation. Furthermore, the analytic techniques chosen were explanation building and cross-case synthesis.

Saunders et al maintain that analysing qualitative data requires its conversion to text. In this regard, interviews¹²⁶⁰ are normally audio recorded and subsequently transcribed using the actual words, giving an indication of any participants' non-verbal communication. Further, as already mentioned, the coding activity plays a key role not only in the initial stages of analysis, but also in the further analytic activity and integration of inbound data. The coding of the evidence emerged from the consideration of the elements encompassed by the study framework and, particularly determinants of interpersonal trust, related influential elements; and issues and risks beyond the interpersonal relationships, regarding interpersonal trust and trust behaviour. Besides, according to Bell, the coding activity allows 'clustering' of key issues. Thus, information was classified focused on the understanding of interpersonal trust determinants, and the exploration and identification of issues, and risks beyond interpersonal relationships, which constitute challenges, regarding interpersonal trust. This process allowed attaching meaningful 'units' of data to these mentioned categories worked out from the theoretical framework. Subsequently, and following Saunders et al, the analysis continued¹²⁶¹ searching for key themes and patterns or relationships in the rearranged data.

In practice, interview recordings were transcribed by the researcher. Then, they were read and reread to identify concepts, thereby capturing the ideas or phenomena as described. Then, the transcriptions were coded by hand, according to the mentioned themes. Coded entries were sorted using simple tables for display. During a period of months, these tables were examined, reread and sometimes rearranged as new insights emerged. The analysis of the

evidence was essentially a reflective process, neglecting the use of analytical software in favour of a manual process supported by thematic tables. The experience of the coding and recoding was an important part of the analytical process, as it allowed connecting expressions or phrases that a software package could not connect. In addition, the time that could have been spent learning to use a software package was devoted to complete a thorough programme of interviews, and to the process of continuous examination of the data collected and coded.

Subsequently, the survey questionnaire, gathered general information about the respondents and their CPG activity and perceptions related to work in the CPGs. Afterwards, the three target areas were covered. In the analysis of the responses, considering the lack of empirical reference of the scales employed, attention was paid to general trends and the specific distribution of responses along the scales.

Based on the criteria discussed about each research tool, and considering the framework for research that has been devised, the analysis of the evidence was integrated around the three lines of enquiry stated following a 'How', 'Who' and 'What' rationale and the three target areas consolidated as a result of the engagement in the fieldwork phases I and II. Those target areas were: Influential elements regarding interpersonal trust in CPGs, Interpersonal trust determinants in CPGs, and Issues and risks regarding interpersonal trust in CPGs. This linkage from lines of enquiry to target areas was shown in Figure 3-5 'Rationale linking from research questions to outputs of Phase I' and Figure 3-7 'Rationale linking from Phase I to target areas in Phase II'.

Finally, once selected and applied a method of analysis, it is necessary¹²⁶² to evaluate the analysis. Thus, the analysis will also follow the conceptual guidance from Yin regarding the principles¹²⁶³ of a high-quality analysis in analysing case study evidence. That is to attend all the evidence, covering the key research questions; addressing, if possible, all major rival explanations; addressing the most important aspect of the case study, preferably defined at the outset; and use the researcher own prior knowledge on the case study, demonstrating awareness of current thinking and discourse about the topic. Furthermore, the quality of the research design is discussed in the next section, before considering the limitations of the research that conclude this chapter.

3.6 Quality of the research design

For a research study to be considered meaningful, it is commonly agreed that the elements of quality in the research design should have been considered regarding its influence on validity and reliability. Furthermore, regarding the issue of the credibility of the research findings, Saunders et al sustain¹²⁶⁴ that all that can be done is to reduce the possibility of getting the wrong answer, by means of putting particular emphasis on reliability and validity. Moreover, Saunders et al maintain that quality issues¹²⁶⁵ identified in relation with semi-structured interviews are reliability, forms of bias and validity and generalisability.

A number of authors have suggested various criteria that can be used to evaluate research quality. In this regard, according to Yin, the challenge for the researcher under an interpretative paradigm¹²⁶⁶ is to apply methods to collect data that will retain the integrity of the data. Moreover, Silverman sustains that unless that it can be shown¹²⁶⁷ that the procedures to ensure that the methods used were reliable and the conclusions valid, there is little point in aiming to conclude a research dissertation. Furthermore, Collis & Hussey argue that two key¹²⁶⁸ features that characterise research findings are reliability and validity. As a result, researchers are compelled to conduct their inquiries in a way that underpins the claim for reliability and validity, and produce findings that can be perceived as generalisable to some extent.

Consequently, validity, reliability and generalisability were addressed in this research work, in accordance with criteria pointed out by Yin, for judging the quality of research designs common to all social science methods, and therefore relevant to case study research design¹²⁶⁹.

3.6.1 Validity

According to Collis & Hussey, validity¹²⁷⁰ is the extent to which the research findings accurately reflects the phenomena under study or; as Silverman states¹²⁷¹, is another word for truth. In the interpretivist perspective¹²⁷², the focus is on capturing the essence of the phenomena and extracting data that provide rich, detailed explanations, in the aim of gaining full access to the knowledge and meaning of those involved in the phenomenon and consequently validity is high under such a paradigm.

A high level of validity is possible¹²⁷³ in qualitative interviews conducted carefully due to the questions being able to be clarified, meaning of responses probed and topics discussed from a variety of angles. In addition, methodological triangulation¹²⁷⁴, where the research design includes complementary methods from within the same paradigm, was also encompassed. As it has been made apparent in this research, sources of evidence include interview transcripts and answers to questionnaires. Moreover, given particular characteristics of the topic, a further source of triangulation is gathered from official publications and material accessed from open sources related to the topic.

Validity was achieved in this research, utilising the three tactics¹²⁷⁵ enunciated by Yin, that is through having multiple sources of evidence, establishing a chain of evidence and having drafts of the case reports reviewed by key informants. Evidence emerging from interviews, questionnaires and documentation analysis were utilised with different emphasis. In addition, a chain of evidence was established as illustrated through the subsection 3.5.1 'Collection of the evidence'. Moreover, as highlighted in the introduction of the same subsection, key informants reviewed and commented upon draft case reports. Finally, together with drawing upon the expertise available from multiple sources in the College of Management and Technology, Cranfield University, the researcher

received regularly expert feedback from his supervisor and the thesis committee.

3.6.2 Reliability

Silverman states that reliability of data should be a central concern¹²⁷⁶ of any research. Reliability refers to the absence of differences¹²⁷⁷ in the results if the research were repeated; in other words, to the degree of consistency¹²⁷⁸ with which instances are assigned to the same category by different observers or by the same observer in different occasions. Furthermore, reliability is one aspect¹²⁷⁹, together with validity of the credibility of the findings.

The goal¹²⁸⁰ of reliability is to minimise the error and biases in a study. Consequently, the objective¹²⁸¹ when addressing reliability is to be sure that, if a later investigator followed the same procedures and conducted the same case study, should arrive at the same findings and conclusions. The concern¹²⁸² about reliability in semi-structured interviews is related to whether alternative researchers would reveal similar information, and to interviewer and interviewee bias.

The reliability of the research design was addressed following the case study tactics recommended by Yin with this end. That is to use¹²⁸³ a case study protocol and to develop a case study database. The case protocol covered an introduction to the case, the procedures for data collection, an outline of the case study report, and the case questions. Reliability in the interviews was safeguarded by means of two procedures. First, an introductory letter to the sources (Appendix A) was sent to the interviewees, to ensure that all of them dealt with the same broad of issues. Second, the interviews were performed by the same person, following a protocol for interviews (Appendix B), reducing the risk of researcher bias, although maintaining the risk of the interviewer individual sensibilities biasing the interview form. In addition, a separated case database was created separating the data or evidentiary base and the case report.

3.6.3 Generalisability or external validity

According to Colley & Hussey, generalisation¹²⁸⁴ is concerned with the extent to which the research findings can be extended to other cases or to other settings. Arguably, in the interpretivist view, it might be possible to generalise¹²⁸⁵ the findings from one setting to a similar setting, if the analysis has captured the interactions and characteristics of the phenomena under study. Furthermore, Silverman argues that statistical sampling procedures underpin the achievement of generalisability¹²⁸⁶ in quantitative research; and that in case studies, a number of cases can be studied in order to investigate some general phenomenon. In addition, Silverman sustains that qualitative research's results can be generalised¹²⁸⁷ by means of the combination of qualitative research with quantitative measures of population.

Saunders et al contend that when an organisation¹²⁸⁸ is markedly 'different' in some way, the purpose will not be to produce a theory that is generalisable to

all populations; instead, the task will be to explain what goes on in a particular research setting. In this regard, this research, in particular, is not intended to be applicable universally, and is deemed applicable in the contexts where the topic has been researched. However, the criterion sustained by Yin regarding multiple-case studies¹²⁸⁹ was considered in the design, utilising a replication logic, to provide external validity, as indicated in the subsection 3.2.7 'Selection of an exploratory, informed by case study, methodology'.

3.7 Ethical issues

Arguably, the concept of ethics is embedded in societies, requiring people to make critical choices over their conduct. Accordingly, by discussing the meaning and implications of this word, ethical concerns could be identified and addressed. In this regard, Saunders et al assert that research ethics have important implications¹²⁹⁰ for the negotiation of access to people and organisations and the collection of data. However, it is not the aim of this section to open an exhaustive discussion about what are exactly the ethical considerations pertinent to this research. The aim is to underpin some decisions according to the particular circumstances where this research effort is set.

In the field of social sciences, which deals with human behaviour, there are ethical considerations, which may impact upon the conduct of a study. Coolican suggest that in social sciences it is difficult to conduct research¹²⁹¹ without running into ethical arguments. Moreover, Silverman argues that when people's behaviour is studied or when asking questions to people¹²⁹², not only the values of the researcher but also the researcher responsibilities to those studied have to be faced.

Regarding research considerations concerning this study, it is deemed that there are two main standpoints that have to be included in this discussion. First and in a broad sense, considerations about research ethics in social sciences. Secondly, guidance or arguments to be brought into light from the defence sector's perspective. Furthermore, and because it is argued that ethical issues¹²⁹³ should be resolved by the researcher and his or her supervisor before embarking on research, discussions and clarification with the thesis supervisor and the thesis committee were held at an early stage. Those perspectives are considered and integrated in the next subsections, under the headings of ethics towards the sources and ethics in the development of the research.

In this context, Collis & Hussey suggest that a successful researcher¹²⁹⁴ needs to take into account any ethical guidelines or regulations when conducting research. In this regard, a code of ethics provides¹²⁹⁵ a statement of principles and procedures for the conduct of the research. Cranfield University and the UK's MOD have both kinds of documents. The Cranfield University Ethics Policy states specific practices¹²⁹⁶ relevant to research activity: maintain professional standards including honesty and integrity; properly document and evaluate critically all results; attribute other's contribution and; wherever possible report all results openly, bearing in mind needs for confidentiality. In

addition, this ethics policy includes inter alia a number of areas where more detailed ethical principles and practices have been set out. For research activities, this Cranfield's policy points out to any relevant UK Research Council publication. This orientation took the researcher to the Code of Conduct & Policy on the Governance of Good Research Conduct (2008), endorsed among others by the Economic and Social Research Council. Furthermore, and because of the defence context where this research is performed, the MOD's relevant publication was also identified. Research on humans in the UK's MOD is guided by the Joint Services Publication 'JSP 536: Ethical Conduct and Scrutiny in MOD Research Involving Human Participants'. This JSP 536 provides instructions¹²⁹⁷ for all investigators conducting research involving human participants. In general, although there is particular emphasis, in the mentioned documents, on studies involving animals or humans from a clinical perspective, more aspects that constitute general principles can also be recalled.

3.7.1 Ethics in respect of the sources

A first stance involves the responsibilities of the researcher towards the sources, regarding the care about the interests of individuals or organisations. In this context, ethics refers to the appropriateness¹²⁹⁸ of the researcher behaviour in relation to the rights of those who become subject or affected by the work. According to Yin, the study of a 'contemporary phenomenon in its real-life context' obligates to important ethical practices, which vary depending on the case study but usually involves¹²⁹⁹:

- Gaining informed consent from participants
- Protecting participants from any harm
- Protecting privacy and confidentiality of participants avoiding to put them in an undesirable position
- Taking special precautions to protect vulnerable groups

Silverman maintains that all ethical procedures guidelines in qualitative research¹³⁰⁰ stress the importance of informed consent, which involves giving information about the research that is relevant to subjects' decisions about whether to participate. In this regard, people should be given¹³⁰¹ information about what is required if they agree to take part and how much time it will take.

Although it is not likely¹³⁰² that participants in business and management research will be exposed to physical risks, it is important to avoid causing distress, stress or other psychological harm.

Anonymity and confidentiality constitutes an ethical dilemma. On the one hand, in principle, anonymity and confidentiality¹³⁰³ should be offered to all the participants, assuring them that they will not be identified with any of the opinions they express. Anonymity is necessary¹³⁰⁴ on some occasions to protect the real case and its real participants. Confidentiality provides¹³⁰⁵ protection to participants by ensuring that sensitive information is not disclosed

and the research data cannot be traced to the individual or organisation providing it. On the other hand, disclosure of the identities of the case and the individuals produces two helpful outcomes¹³⁰⁶: the reader can recall previous information he or she may have learned about the same case and; footnotes and citations can be checked, and external comments can be solicited about the published case.

In this research, the following measures were taken:

The voluntary nature of the participation and the right to withdraw from the process was informed to the sources from the outset. In the introductory letter to the sources (Appendix A) sent in advance to the interviewees. Thus, an informed consent was deemed to be achieved.

Data gathered from individuals will not be revealed or commented on with any other member in the same or another CPG. Any records, transcriptions and questionnaires will be kept in a safe place and destroyed once the research examination is complete.

The confidential character of the information provided was also informed in advance. In order to encourage full and frank discussion, at the beginning of every interview, in accordance with a protocol, the confidential nature of the individual's identity was reaffirmed, as enunciated in the introductory letter to the sources (Appendix A), and agreed. In this way, the interviewee should not feel him or herself at any risk because of the evidence provided. In addition, interview transcriptions were submitted to the interviewees to confirm that they depict his or her views properly, when agreed by the participant. Furthermore, according to Collis & Hussey, anonymity and confidentiality¹³⁰⁷ in questionnaire surveys may contribute to a higher response rate and increased honesty; and in interviews, it encourages greater freedom of expression and more open responses. Finally, sources which might be identified, individuals or teams, were disguised with pseudonyms.

3.7.2 Ethics in the development of the research

Saunders et al suggest that ethical concerns can occur¹³⁰⁸ at all stages of the research project: when seeking access, during data collection, as data is analysed and when reporting the findings. Therefore, a second perspective involves the activities of the researcher in the planning and execution of the research and, in general, matters related to the originality claimed in a doctoral thesis. In this context, the success of a research student is achieved through the acceptance of his or her dissertation. In this regard, according to Collis & Hussey, it is unethical¹³⁰⁹ to invent data, and to falsify, exaggerate or omit results. The already mentioned UK Research Council's publication, states conducts that would normally be regarded as unacceptable in the development of the research¹³¹⁰:

- Fabrication, which may include the creation of (fictitious) data or other aspects of research
- Falsification of data, imagery and/or consents

- Misrepresentation of data, including undisclosed suppression of findings or data, or knowingly or negligently presenting flawed interpretation of data
- Plagiarism, including misappropriation or use of ideas, intellectual property or work of others, without acknowledgment or permission
- Management and preservation of data and primary materials for less than reasonable periods after the completion of the research

Those widespread concerns were borne in mind and integrity tenets were meticulously respected in this study.

3.8 Limitations of the research

In simple words, a limitation can be understood as ‘a limiting rule or circumstance; a restriction’¹³¹¹. In this regard, Saunders et al maintain¹³¹² that virtually every research has limitations, which should be seen as mature reflections on the degree to which findings and conclusions can be said to be the ‘truth’. From that perspective, it could be argued that there can be many different types of potential limitations to any research. In addition, Creswell suggest that a limitation¹³¹³ describes a weakness or deficiency in the research. Moreover, Collis & Hussey maintain that all students should state¹³¹⁴ the limitations of their study. Furthermore, limitations should not be ignored as they serve two purposes¹³¹⁵: to identify potential difficulties and to ascertain whether they need to be resolved or if they are acceptable in the context of the particular research design, and to signal at an early stage issues that need to be addressed during the course and when writing up the research. Thus, the statement of limitations to this research constitutes a relevant element in the definition of the scope of the research, and to manage those limitations timely.

In broad terms, limitations to this research arise from a wide range of causes, including the selection of a research approach, paradigm and methodology. In addition, the identification and appropriate analysis of the pertinent literature as well as the proper selection of the sources of evidence can influence significantly the research outcomes. Also, the limitations of the researcher and the sources regarding the perception of reality have the potential to exert influence, amongst other factors.

From the outset, it must be stressed that this study was conducted under a series of constraints. Relevant limitations are those deemed to have an impact on the value of the findings that is possible to arrive at in the context of the research effort. In this regard, in the opinion of the researcher, the most likely ones to entail limitations are those related to the volume and quality of data from the sources in the defence sector. Thus, limitations are mainly expected in data collection, due to either lack of access to the sources or reduced quality of the data gathered, for varied reasons. Despite access to the sources is usually referred to as a recurrent conflict in social sciences research, the context for this research is deemed to involve complex particularities.

The following limitations are believed to impose constraints to collecting and/or analysing relevant data:

- Access to the sources: Due to pressing duties performed by the sources, in parallel to their responsibilities in the CPGs, particularly undergoing military operations in which the UK is involved, the possibility of expedite access for collecting data and further explorations are highly limited, if possible, in some circumstances.
- Military confidentiality: This aspect plays high influence in the potential deepness and width of the information provided to an external researcher, arguably more relevant when the researcher is a foreigner. This could restrict the scope of the data collected, and the statement of contextual information and clarifications.
- Characteristics of respondents: The characteristics of the respondents, in the case of the interviews, could represent a limitation. The researcher has been limited to the application, by a third party, of general criteria; to select the specific CPGs to be considered as unit of analysis. Although being CPGs, the particular groups may have been selected based upon additional unknown considerations.
- The newness of the employment of VTs in capability planning activity: This aspect could affect the quality of the data collected, particularly the possibility of presenting critical views or to have sufficient organisational experience to understand the issues and risks involved in capability planning activity undertaken through VTs.
- Nature of the research approach: The already mentioned exploratory nature of this research, and the need to achieve balance between breadth and depth, may impede to fulfil the expectative of the reader.
- Nature of the research problem: The overall intent of the study of addressing the understanding about interpersonal trust determinants, operating within the CPGs, is inherently broad, because of the need to understand a phenomenon in a given context. Although this research is deemed to make a contribution to understanding interpersonal trust in military context's virtual teams, a novel practice, lack of depth is deemed to be an unavoidable limitation.

Although it is very difficult, if possible, to determine the precise scope of these limitations, some mitigation measures oriented towards facilitate the access to the sources and lessen negative effects over the research work were considered in the next aspects:

- Access: Access was secured through formal agreement with the Capability Sponsor organisation and arranging interviews with the selected sources very well in advance. In addition, it was planned contingency time to access the source with some delays when interferences appeared. In this regard, it is deemed that the use of contacts and relationships was of noteworthy usefulness to finally succeed accessing the data sources deemed relevant

- Procedure: As the objectives of each stage are defined consistently, those were clearly reflected in the introductory letter to the sources and the protocol followed in the interviews.
- Interaction: Being this research related to interpersonal trust, special care was given to build trust between the researcher and the sources. Initial self-introductory e-mails were sent, carefully contextualised to the particular interviewee, presenting the introductory letter to the sources. In the letter, it was emphasised the potential benefits for capability planning activity. In addition, flexibility when dealing with interferences, or any disturbances to the sources, facilitating the actual data collection activity, was pursued.

Finally, together with the consideration of these aspects, research activity was taken into practice with the considerations involving ethical issues already discussed. It is deemed that this approach played a part to smooth the progress of interaction through the data collection activity.

3.9 Summary of the chapter

This chapter addressed the formalisation of a framework for research and the discussion of the research methodology to be employed. Thus, it dealt with articulating a sensible and justifiable research design that is appropriate to address the topic under consideration, under the particular perspective adopted in this thesis work.

First, the research problem was examined and formalised, and the topic, objective and research questions enunciated. Next, the research strategy was discussed, including the research design rationale, approach, paradigm and the selected methodology. The selected exploratory, informed by case study, methodology was justified because of the need to explore a complex phenomenon, difficult to separate from its context, and where there are very few or no earlier studies to which refer for information.

Subsequently, the conception and execution of the fieldwork was developed through two phases. First, semi-structured interviews to the members of a number of selected CPGs following a replication logic. Second, a survey questionnaire addressed to the whole population under consideration. The research questions were linked to the outputs of the Phase I of the fieldwork following the discussed 'How', 'Who' and 'What' rationale, as shown in Figure 3-5 'Rationale linking from research questions to outputs of Phase I'. From the results in Phase I, specific target areas to be inquired through survey questionnaires in Phase II of the fieldwork were consolidated as shown in Figure 3-7 'Rationale linking from Phase I to target areas in Phase II'. Third, a discussion of the analytical process followed.

The consideration of the quality of the research design covered a discussion about the validity, reliability and generalisability in this research realm. Afterwards, a discussion about the ethical considerations that are of significance for this research, was aimed to underpin some decisions according to the particular circumstances under which this research effort is set. Finally, the limitations of the research were identified as a relevant element in the definition of the scope of this research work, and as a mean to recognise issues that need to be addressed and to manage those limitations timely.

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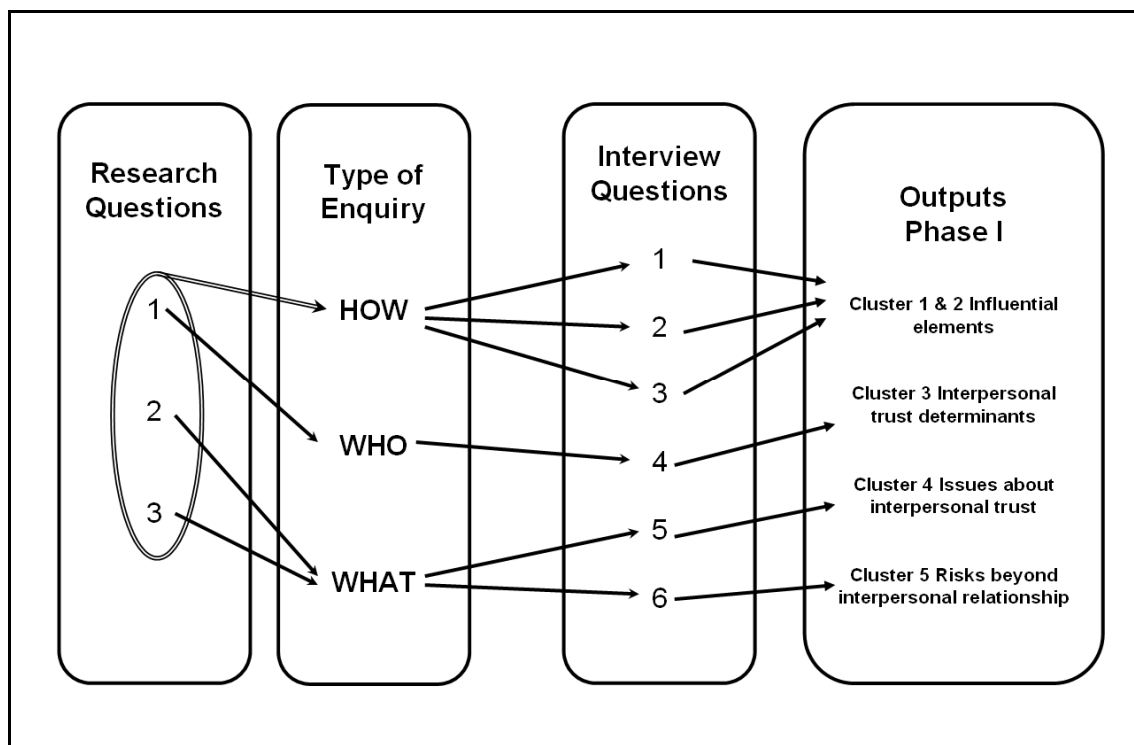
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4 Findings of phases I and II

4.1 Introduction

In the previous chapter, a framework for research was formalised and the research methodology employed to address the research problem discussed. This included the statement of a basic conceptual framework, and based on that, the articulation of the relationship between the research questions, the type of enquiry that they represent, the interview questions, and the expected subsequent outputs of the Phase I of the fieldwork, grouped around five clusters. This can be seen in Figure 4-1 where the articulation of the conceptual framework from research questions to output of Phase I is depicted.

Figure 4-1 Conceptual framework from research questions to output of phase I



Source: Author

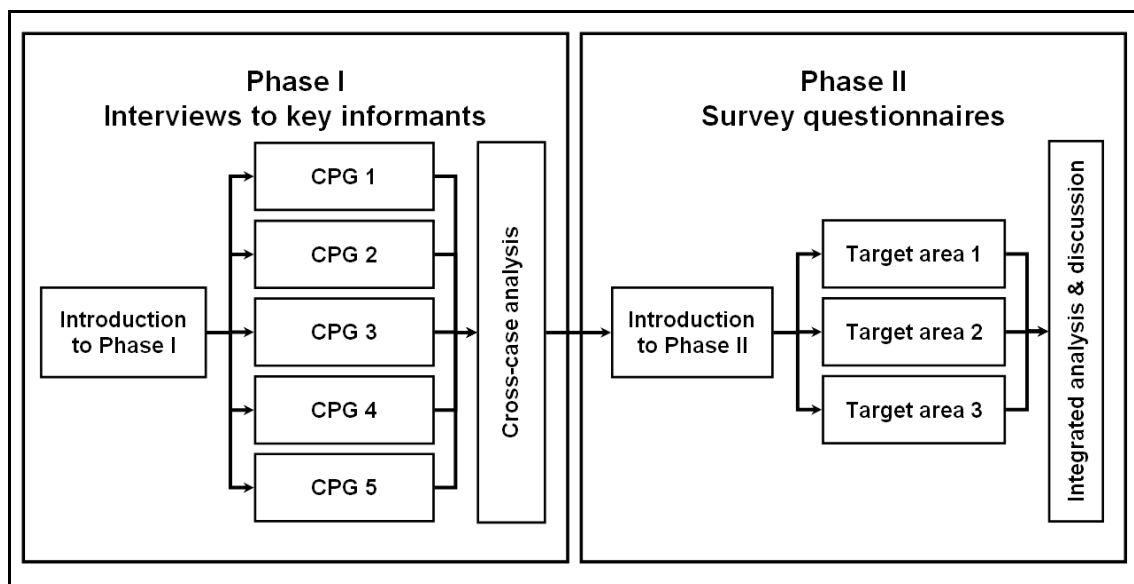
As already discussed in Chapter 3, the fieldwork was developed in two successive phases. Phase I considered data collection through semi structured interviews with the individual members of five (selected) out of twenty nine CPGs. The methodological underpinning for the formulation of the semi-structured interview questions was discussed in the previous chapter as well. The data collected through the interviews, was sorted and analysed around five clusters. This analysis informed the elaboration of survey questionnaires applied to the whole population of CPG members in Phase II. Phase II was formulated as an opportunity to confirm and expand, allowing confirmatory evidence from the perceptions expressed by key informants, and to integrate the findings of both phases in a structured manner. Subsequently, the results

inform an integrated analysis and discussion developed in Chapter 5. As a whole, the research methodology was the result of a discussion in respect of how to address the understanding of the interpersonal trust determinants in VTs integrating skills and capabilities in a cross-functional manner, across defence organisations. As a consequence the following research questions, already discussed in 1.8 'Topic, Aim and Research Questions', were enunciated:

- Research Question 1. **What are the pertinent determinants of interpersonal trust in the CPGs?**
- Research Question 2. **What, if any, are the issues surrounding those determinants within the CPG?**
- Research Question 3. **What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members?**

According to Saunders et al, there are two important points when writing¹³¹⁶ the results of a research project report: the purpose is to present facts; and findings should be structured in a clear, logical and easily understood manner, in order to facilitate the overall intent of communicating the answer to the research questions in as clear a manner as possible. Consequently, this chapter is organised around the already mentioned two phases. Figure 4-2 represents the elements of which it is composed. Firstly, an introductory explanation to Phase I; then, the presentation of the report of the five CPG studied; followed by a cross-case analysis and discussion. Secondly, an introduction to Phase II, is followed by the presentation of the evidence gathered around the target areas identified as a result of Phase I. Subsequently, in Chapter 5, an integrated analysis and discussion of the findings is addressed.

Figure 4-2 Chapter 4 Findings of phases I and II structure

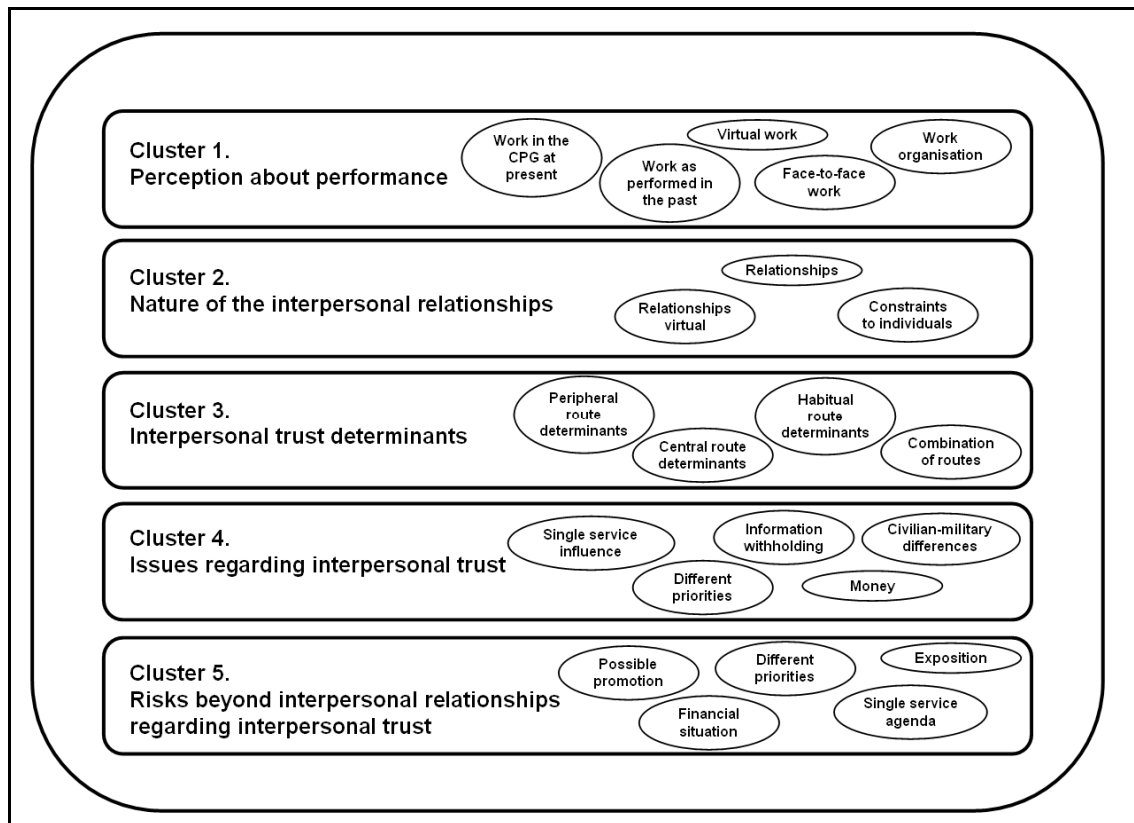


Source: Author

4.2 Phase I, Interviews with key informants

The analysis and discussion of the evidence pertaining to each CPG interviewed is presented in this section 4.2, around five clusters, broken down in themes, as depicted in Figure 4-3. The cases are presented in Subsections 4.2.1 to 4.2.5, Subsequently, in Subsection 4.2.6, a cross-case analysis and discussion is provided.

Figure 4-3 CPG interviews, clusters and themes



Source: Author

Cluster 1 Perception about performance

When the perception about the performance of the CPGs is explored through inquiring the perceptions of individuals, they tend to express ideas about how the work is carried out at present, and sometimes they have information or personal experience that allows them to compare how capability planning is executed now against how it was performed in the past, when previous models were utilised. Interviewees also tend to highlight characteristics of the employment of virtual teamworking, making statements deemed to have positive, negative and neutral connotation. Although the philosophy underpinning the TLM approach is understood and accepted as a positive step forward, there are different emphases in the individual's perceptions about the maturity of the employment of CPGs, and the scope of their usefulness to contribute to capability planning performance.

Cluster 2 Nature of the interpersonal relationships

Regarding the perception of the CPG members about interpersonal relationships, there were mixed views, with positive, negative and neutral connotation. Those perceptions were elaborated by the interviewees expressing their perceptions about these relationships; some characteristics related to the virtual environment, where they are partly developed; and different constraints that, in the view of the respondents, exerted influence to some extent. The constraints mentioned were related to differences between military and civilian personnel, pressures that members are under, influence of the services and 'jointness' aspects, promotion prospects, and the fact that CPG members come from different organisations.

Cluster 3 Interpersonal trust determinants

In respect of the factors that determine interpersonal trust, when expressing what would be the interpersonal trust determinants in the CPG, interviewees tended to answer in three different manners. Firstly, sometimes, they mentioned the routes through which interpersonal trust determinants played their role. Secondly, on occasions, respondents named some of the determinants, implying its associated route. Thirdly, often individuals mentioned routes and determinants as a way to express their views. Those answers are presented for each case, ordering the views to facilitate the understanding of the different responses in the most sensible manner.

Cluster 4 Issues regarding interpersonal trust

In the cluster 4, in coherence with the mixed views expressed regarding interpersonal trust determinants, the respondents illustrated some issues regarding interpersonal trust. They had to do with the existence of single service agendas, different priorities between organisational areas, withholding of information, scarce financial resources, the necessity of re-scoping planning as a result of unforeseen financial resources constraints, and lack of trust amongst the services.

There can be different reasons to pursue organisational objectives through cross-functional teams. However, this kind of team can bring to the table some limitations. In this regard, the membership of the team has to be balanced against the 'home' internal organisation, and the fact that information and knowledge has to flow through different internal organisations overcoming functional boundaries.

Cluster 5 Risks beyond interpersonal relationships regarding interpersonal trust

In the model of interpersonal trust in VTs adapted in this research, risk plays a role in the behavioural manifestation of trust, making room for the consideration of the context in which the relevant activity, i.e. capability planning, is carried out. Perceived risks, and the consequent positive or negative outcomes that might occur, are deemed to be critical for a specific action to be taken or not.

When asked about risks perceived beyond interpersonal relationships, which could influence the trust behaviour of CPG members, the organisational dilemma in the design and study of organisations, regarding the conciliation of individual's and organisation's objectives is somehow reflected in what is mentioned as the prospects of career progression, which was already mentioned as one element that, in the view of the respondents, influenced interpersonal relationships and trust. Furthermore, the cross-functional nature of CPGs is reflected in the odds of conflict amongst the services interests recognised as the existence of single service or suborganisational agendas, and risks related to vulnerabilities of exposing sensitive information. In addition, there were mentions of the present severe financial situation, and the difficulty to operationalise priorities in terms of capabilities.

4.2.1 Capability Planning Group 1

4.2.1.1 Cluster 1. Perception about performance

Work in the CPG at present

CPGs are VTs, and as such, they could work sometimes physically collocated, but also through virtual means as well. In this regard, one of the interviewees expressed: 'A lot of CPG work is done outside bounds or an actual CPG meeting...' ¹³¹⁷. Perception about how CPGs work at present shows a mix between positive, negative and neutral statements. On the one hand, CPGs are believed to be 'good, an overarching and empowered organisation over the top that can delve [dig] into other capability areas, and to make priorities, and to allocate priorities and you spend money to deliver coherent capability' ¹³¹⁸. Also, it is indicated that the current approach to Through Life Capability Management facilitated capability planning activities: 'CPG works relatively well, because of the TEPIDOIL [Defence Lines of Development, DLoDs, see Chapter 1] construct and the fact that all of those LoDs should be represented in fora' ¹³¹⁹. Regarding the challenge to VTs of converting the individual skills into interdependent work, an officer mentions his positive view of the CPG construct: 'Now ... is more inclusive, our views are valued and ...the virtual groups probably have weekly contact ... So, all the areas are far more linked up' ¹³²⁰. Overall, CPGs are perceived as 'an effective body' ¹³²¹, and that as a result of the employment of CPGs in capability planning, 'we've made a more efficient system' ¹³²². Although it is recognised that 'there are still some issues, but I think we are in a lot better place than we were' ¹³²³.

On the other hand, there are also expressions deemed to have a negative connotation. Perceptions categorised as having negative connotation were centred around ideas relative to:

- Stovepiping amongst capability planning areas,
- The difficulty to make joint decisions in terms of capability,
- The difficulty of the CPG to position itself as a decision making entity and,

- The impact of present financial constraints.

Firstly, a member of the CPG argued that ‘the problem I see is that the CPGs are still quite stovepiped in the areas of capability they look at.’¹³²⁴ In this regard, he sustained that: ‘I struggle with representation with [related] capability areas, ... is one CPG I interact with...’¹³²⁵ In addition, it is apparent that another difficulty is posed by the fact that ‘it’s still based around platforms and not around capability, because some platforms contribute to many different capability areas and that is a difficulty.’¹³²⁶ Secondly, a difficulty to make joint decisions is illustrated by a member as ‘I don’t think we are making particularly joined up decisions in terms of capability management in the round. So, we are not making prioritised decisions based on the advice of the CPGs.’¹³²⁷ Moreover, he expresses that ‘The other thing I think is, I don’t think CPG work because I don’t think we are still, being honest, across the services with each other.’¹³²⁸ Thirdly, regarding the difficulty of the CPG positioning itself as a decision making entity, one member of the CPG declares that ‘I think they are competing with other elements of the organisation [defence]... there is a very blurred boundary.’¹³²⁹ And that ‘I don’t think CPGs have superimposed themselves well on capability management... Because they don’t have the money, they don’t have the influence... they need to be developed.’¹³³⁰ Similarly, another member affirms that ‘The work within the future capability area, certainly within our area is done by other committees which support programs as opposed to the CPG itself.’¹³³¹ Finally, it is argued about the CPG that ‘They are not as effective as they perhaps could be... I think it’s worse purely because of the resource constraints.’¹³³² In this regard, the interviewee explains ‘I don’t think they’ve [CPGs] allowed or delivered because of the financial constraints... the whole process is very well structured in terms of capability shortfalls, key risks and capability plans, and priorities. That works if there is the money to deliver it... generally what we find is ... we have got an overarching plan, but we can’t afford that plan. So we pick pieces of it to deliver.’¹³³³ In addition, the respondent adds that ‘One of the challenges of the CPG is to come up with a plan for the post SDSR [Strategic Defence and Security Review] implementation.’¹³³⁴

Work in capability planning as it was performed in the past

Regarding how the MOD carried out capability planning activities before introducing CPGs, one respondent characterised an adversarial relationship: ‘It used to be a system where there was (sic) a lot of people at the table, trying to sort that capability planning and that the loudest or the largest number of stripes was the person who was listened to, or got the dominant view.’¹³³⁵ In addition, a view was expressed in the sense that decisions were made in an isolated manner, ‘[in the past it] never really galvanised into taking decisions and the capability area in town [London] just went away and made decisions anyway.’¹³³⁶ This expression could not underpin the establishment of a causal relationship between the introduction of CPGs and overcoming the mentioned negative aspects. However, the respondent is implying that from his perspective there has been positive change since the introduction of CPGs.

In addition, one of the characteristics of the assignments of military personnel in the CPGs, declared by respondents, is a high rotation rate of military officers in their positions, so normally they would be assigned to that position for two years. Thus, only a number of interviewees have previous experience working in capability management. This, is mentioned occasionally as a justification for not commenting about it: 'I don't know how the function was performed previously.'¹³³⁷

Virtual work

In relation to the perception of the suitability of virtual teamworking for capability planning purposes, one interviewee said that a combination of virtual and face-to-face work is necessary: 'Once every six months the CPG works well because everyone is around the table and there is an update from all sources and most importantly is interactive... VTs have their place, but it's important that the team continue to meet periodically, twice a year maximum.'¹³³⁸ In addition, the perception of one of the VT challenges in communicating and coordinating work is mentioned as 'As you work on a virtual environment, you don't always know what the outcomes of the discussions by email are.'¹³³⁹

Face-to-face work

Although interviewees recognise benefits in the employment of VTs as compared to collocated teams, some of the challenges of the employment of VTs are apparent as 'I think it works better in forum rather than by virtual means.'¹³⁴⁰ In addition, it is recognised the advantage of face-to-face interaction regarding communication and mutual understanding, expressed as 'If you discuss around the table, you have a better understanding about where people's understanding is.'¹³⁴¹ In an interviewee's view, there is room for virtual means, but the benefits of VTs come at a cost: 'VTCs [video technical conference] fine, but actually, the interpersonal..., around the table relationship works best.'¹³⁴²

Work organisation

One theme that brought attention from the interviewees was that of work organisation or task design. In this regard, there were views expressing positive and negative aspects.

The CPG is regarded as an element that allows the integration of different perspectives in a particular capability area, although some difficulties are seen. On the one hand, a respondent states that 'The CPG construct makes sense, drawing together the key stakeholders to prioritise and agree the capability goals and the capability plan, and everyone takes away their part in it.'¹³⁴³ In addition, another interviewee points out that 'The CPG [allows] a lead voice in each area, minimising the number of people around the table, making decisions more certain than ever before.'¹³⁴⁴

Conversely, some respondents express difficulties in understanding the roles of different organisational instances: 'What I am less clear on is the hierarchy of meetings. So, you talk about CPG, Program Boards, CMGs... I don't fully

understand where you pass from CPG to CMG, from CPG to Program Boards.¹³⁴⁵ Furthermore, another respondent, a User representative, mentioned that 'Sometimes I feel that instead of me setting the requirements and then programming the capability to meet those requirements... they come back to me and say you do need to change these requirements, because you need to match your requirements to the capability we are delivering for you.'¹³⁴⁶

4.2.1.2 Cluster 2. Nature of the interpersonal relationships

Relationships

Interpersonal relationships were regarded as positive in the sense that they allowed one of the VT benefits, to promote equality and equity. In the view of one respondent 'I think the relationship is ... regardless of rank and role is very equal... [we] have an equal exchange, very frank exchange.'¹³⁴⁷ In addition, when compared with interpersonal relationships when previous models of capability planning were used they were mentioned as having better interpersonal relationships: 'I think that generally the relationship is a lot better than it was.'¹³⁴⁸ One reason given for the closeness of the relationships between CPG members was that they belong to a much specialised capability area: 'Interpersonal relationships are good and strong, because members come from a small community... very familiar with each other.'¹³⁴⁹ However, in the perspective of a senior officer there is room for improvement in person-to-person arrangements: '[there is] more to achieve with the bi-lateral-type arrangements.'¹³⁵⁰

Relationships virtual

One of the respondents pointed out that most of the CPG activity was performed by virtual means: 'I think we do a lot more in the virtual CPG than what we do in the formal CPG.'¹³⁵¹ However, another respondent referred to the challenge of communicating and coordinating work in VTs, stating that 'If you are working virtually, you can't guarantee that everyone knows what everyone else do.'¹³⁵² As a result of this, it is mentioned that what sometimes happens is that 'People who might want to know don't get to know, until the decision have been made before they can have their input.'¹³⁵³

Interpersonal trust is regarded as an enabler to work utilising virtual means. In the words of a respondent, there is a necessity for trust, based on 'cues' perceived through the peripheral route: 'I think that if you are going to work virtually, and it is going to work well, you need to establish your interpersonal relation anyway, you need to have confidence in the person you are working to, which, I think, can only be established by either previous knowledge or his reputation which come with it and your willing to accept that way to go forward.'¹³⁵⁴

Although some limitations are associated with the employment of VTs, views are expressed supporting their usefulness: 'Virtual has its place, but you can't decide or agree on a difference in policy through a virtual forum.'¹³⁵⁵ Further, the respondent added 'Quite often, the VT allows the beginning of discussion of

the topic, but becomes a point when the VT no longer works; If there is a difference of opinion, between two or three members of the CPG, I think you then have to sit down together.¹³⁵⁶

Another VT challenge that came up in the interviews was the necessity to choose suitable IT tools. In the view of one interviewee, there are some information technology tools more suited for the work in capability planning than others: 'I understand the email, I understand sometimes VTC [video technical conference], but chat rooms are a level too far. I think that email allows to distribute stuff, allows people to read and comment back, allows to tell everybody what comments they think. But I do not think that a chat room for example, allows you to have the discussion where I can say here is this document, look at that.'¹³⁵⁷ Subsequently, the respondent mentioned his difficulties utilising some of the computer-based conferencing systems in other activities: 'I used chat rooms and found it quite difficult, because it's very easy to type things out, send them, not think about it. If you are actually in front of someone and you want to say something, you have got to be quite clear and concise, so [that] everyone understand and if not you explain that.'¹³⁵⁸ These are the reasons given by the respondent, who declares that in his perception available tools are sufficient for the activities in capability planning: '... in terms of technology that's enough.'¹³⁵⁹

Constraints

At the organisational level, there is a combination of factors that are mentioned as influencing an individual's behaviours and, hence are regarded as impacting interpersonal relationships. In the words of a respondent: '... you have to ... understand the constraints that each is working on there.'¹³⁶⁰

On the one hand, civilian and military members of the CPG are regarded as driven by different interests, as mentioned by a military officer 'Military and civilian members of the CPG... some difference, they [civilians] are not as bound by the personal interest in promotion... they are all bound by their personal interest in a project... because they may have given 15 years of their life to it.'¹³⁶¹ The interest of civil servants in a particular project would be caused in the respondent's opinion by the nature of their employment in the MOD: 'If we bin it [a project], they've out of a job. Whereas in the military if you are in a project, you will move somewhere else.'¹³⁶² In addition, civilian CPG members are perceived as a source of stability '[the civilians] bring a lot of continuity... to the capability area which military officers... we run every 2 years... They understand all the ins-and-outs why made decisions in the past.'¹³⁶³ Thus, the civilian membership of a CPG would provide some level of compensation for the rotation of military members, allowing the pooling of new expertise together with retaining a dose of stability to facilitate capability planning activities.

Different influential factors are mentioned as pressures undermining trust: 'I don't think there will be ever the complete trust, because people are under different pressures, financial, promotion pressures.'¹³⁶⁴ Somehow, those pressures would influence perceptions about integrity in the CPG environment:

‘Perceived integrity... you don’t know what pressures those individuals are put on by their superiors.’¹³⁶⁵

Firstly, the influence of different organisations is mentioned: ‘One of the challenges of the CPG is... there is (sic) a lot of tensions between CPG members, different views.’¹³⁶⁶ And some examples are provided: ‘Staff people [R&Ps or Sponsor]... between them and the Front Line Commands (FLC), and the FLC and the support organisation.’¹³⁶⁷ Secondly, the consideration of the performance evaluation system (Confidential Report System) and their impact in individual’s promotion: ‘You’ve got to follow the single service agenda. Nobody gets promoted by the joint system because there isn’t one, is a single service system. I think there is a certain amount of trust between everybody, but only to a certain extent, and then we all understand the pressures each other are under, and then there has to be a compromise.’¹³⁶⁸ Moreover, this factor of the performance evaluation system is mentioned as influencing in different manner every member of the CPG: ‘My point of contact within the capability area, ... his report to his promotion is based on what his boss wants, my report and my promotion is based on what my boss wants.’¹³⁶⁹ Further, the respondent regards it as a factor without a simple solution and influencing all capabilities being developed: ‘I haven’t got a simple solution ... that reporting process. Because is a military system, you never get a truly joint capability.’¹³⁷⁰

4.2.1.3 Cluster 3. Interpersonal trust determinants, as perceived by individuals

Peripheral route

Regarding the influence of the peripheral route, different views were expressed in relation to its level of influence. Perceptions range from very influential: ‘This is very strong [the peripheral route]’¹³⁷¹, to influential but not necessary: ‘Peripheral... helps, but is not necessary.’¹³⁷² Furthermore, the peripheral route was regarded as informing the central route: ‘I think all of this informs this [peripheral route informs central route].’¹³⁷³

When exploring the determinants that work through the peripheral route, third party information is regarded as relevant: ‘third party information is always quite important.’¹³⁷⁴ Although, in the view of a member, it can play in two ways (in favour or against); as expressed: ‘The most interesting, third party information is important for a number of reasons but also unhelpful.’¹³⁷⁵ Together with third party information, history is indicated as informing the trustor: ‘A lot of people that we deal with, we know they either, ... we know them from a previous appointment, you may know they’ve bad reputation, through a third party.’¹³⁷⁶

A personal characteristic as disposition to trust, and an organisational factor as the demand of conformity to rules were mentioned as similar determinants: ‘Disposition is the same. And the rules, these are all very similar.’¹³⁷⁷ Another determinant mentioned by the respondents, was based on knowledge of roles: ‘I think the way in which the services work is that you generally accept a person for what they are ... You generally accept that he is going to be good at what he does. And you’ll retain that decision until you prove the otherwise, basically.’¹³⁷⁸

Finally, the category determinant was also recognised, as military ranks constitute organisational categories in a defence organisation: 'Military rank and role has its part to play.'¹³⁷⁹ Although the significance of its relevance is not perceived as fundamental: 'I don't think it's about rank necessarily... If you are a good operator, in this building [MOD Main Building, London] you will be listened to.'¹³⁸⁰

Central route

When examining the determinants that operate through the central route, CPG members acknowledge the relevance of personal knowledge towards the attribution of trust. From the outset, respondents contextualised the importance of the central route for the success of the CPG: 'I think the success of the CPGs is born out of familiarity, working closer with people that you know and you've worked with before.'¹³⁸¹, and 'The central route... is very important... when you take over a job you need to go and speak to the person you are working with. You need to establish your network.'¹³⁸². Furthermore, there are views that highlight the central route as the most important: 'The central route is probably the one that ... has the most influence.'¹³⁸³, or in another respondent's view: 'I think this is the key [central route], if we get this right, then we would work better as a CPG.'¹³⁸⁴. Finally, it was expressed that the central route doesn't work as a straightforward way to build trust, it would require time to work: 'I think we do, [use the central route], I think over time we do.'¹³⁸⁵.

Regarding the relative influence of the determinants, there is convergence in the views expressed about the priority that ability gains over other determinants: 'There is a fair amount of trust just on professional ability.'¹³⁸⁶. Moreover, an interviewee pointed out that ability was the most relevant determinant: 'Ability is the most important.'¹³⁸⁷. Similarly, another respondent highlighted ability over integrity and benevolence: 'Ability is important, integrity; benevolence, I am less convinced by.'¹³⁸⁸

Habitual route

In relation to the habitual route, opposite views were found. The perceptions expressed were related to the actual development of interpersonal relationships, to build trust through the habitual route. In this regard, respondents' view is that CPGs utilised this route in many cases, sometimes, and that they don't have the opportunity to get to use it.

Firstly, one respondent view's, recognised the use of the habitual route: 'In many cases, actually you do get to the habitual route, people, you have social bonds, if you are a good operator.'¹³⁸⁹. Secondly, a respondent who believes that sometimes the habitual route is reached: 'Do we get into the habitual bit? ... sometimes, some decisions we just say yeah, yeah go and make the right decision and we don't influence it.'¹³⁹⁰. Finally, there was a senior military member of the CPG who doesn't identify the habitual route in CPG activities: 'I don't think we have the opportunity to get there [habitual route]. Because we change.'¹³⁹¹

Another view regarded social bonds as a determinant in some way related to history: 'For people [who] has been in the services before, the chances are that you can use the social bonds because you may know these people already.'¹³⁹² This is somehow reflected in identification based on personal knowledge, as expressed: 'There is a kind of, I suppose, possibly history and social bonds join together because you come from a kind of family.'¹³⁹³

Relation between the routes

The three routes, encompassing the pertinent determinants, to build and maintain interpersonal trust were regarded as having different levels of influence and also, as being interconnected to some extent.

Firstly, all the determinants were regarded as having some degree of influence, in one individual's words: 'All of them [determinants] have a role to play.'¹³⁹⁴ The peripheral route was mentioned as informing the central route, the latter being the most influential route to trust: 'This is the biggest room [central route], the perception piece [peripheral] that's sort of a done-deal, that happens and it's done, benchmarked. You never get back to it.'¹³⁹⁵

In terms of determinants, after highlighting ability (central route) as 'the most important' determinant, a respondent allocated a lower level of influence to peripheral determinants: 'Then, the peripheral factors, reputation from third parties and rule in terms of the position of the other people.'¹³⁹⁶ Similarly, another CPG member pointed out history and role as peripheral determinants, plus the central route as well: 'So it's history I suppose, it's role, and it's basically what you could actually see... central route through interaction.'¹³⁹⁷ These views, as a combination of determinants influencing through the peripheral route and the use of the central route, are shared, as explained by other interviewee: 'I think a mixture of these, top three [third party information, disposition and rule in the peripheral route] I think are the more important, this history count a little bit, but third party information, disposition and rules, I think yeah, key really... I think they [the routes] are crossed over.'¹³⁹⁸ Furthermore, the respondent perceives the relationship between these routes as acting somehow in a sequential manner: 'I don't think they are clearly defined between the central route and the peripheral route. Your disposition and third party information, becomes perceived ability.'¹³⁹⁹

In general, the members of the CPG expressed that in their views the central route has a high level of influence towards building trust, although they mentioned different determinants or just named the route. In addition, a majority perspective was that the peripheral route had a medium level of influence on interpersonal trust between CPG members. Finally, the habitual route was marginally mentioned with contradictory perceptions about its practicality in the CPG. In any case, no one respondent mentioning it, gave any indication of the degree of perceived influence of this latter route, in the determination of interpersonal trust between the CPG members.

4.2.1.4 Cluster 4. Existence or non-existence of issues, regarding interpersonal trust

Single service agendas and different priorities between organisational areas

One internal boundary mentioned by the respondents was between the different armed services: 'The main issue ...we wear different colour uniforms and we represent different parts of the organisation.'¹⁴⁰⁰. Although, it was regarded as an issue which in a given situation could work in favour or against an organisation: 'Single service agendas is an issue, I have vested interest. It works both ways.'¹⁴⁰¹.

In this regard, the existence of different priorities is assumed as inherent to the context where CPGs act: 'There are frictions... issues are accepted everybody is working to... different priorities for various reasons.'¹⁴⁰². As explained in the respondent's own words: 'The capability area wants to program a plan, the best capabilities they can for the money they have got. I understand that and I am going to push them, because I know they've got money elsewhere in other areas of capability. I will push them as hard as I can ... but I understand they've got a constraint and I won't get it all.'¹⁴⁰³

Withholding information

A critical resource to achieve the goals of a CPG is information. In this regard, trust is mentioned as a fundamental factor in the functioning of VTs. Those concepts are articulated by an interviewee: 'You establish your relationships, you know, who the people are, who you can trust, you know people who are that, you know, if you told him something which should be close hold, shouldn't go any further.'¹⁴⁰⁴. Furthermore, the respondent relates this issue to perceived integrity when passing information to another member: 'My principle [principal] issue would be perceived integrity... I would be loathe [averse] to pass some information to someone that I wasn't sure would use it correctly.'¹⁴⁰⁵. Moreover, another respondent also related this issue to integrity of another member when passing information to him: 'Benevolence, a view of it and also their integrity about how much are they going to tell me or how much are they going to declare to me of what they can and can't do. It's an accepted issue ... every, every area of defence is under certain amount of pressure.'¹⁴⁰⁶. Thus, as depicted by CPG members, restrictions posed by individuals to the flow of information could affect the performance of the CPG. Interpersonal trust would facilitate the flow of information necessary to accomplish CPG goals.

Financial resources

CPGs are the construct where the cross-functional integration of skills and capabilities across the MUC is intended to balance defence policy aspirations and available resources. It is amply recognised that even the most well designed organisational teams cannot always accomplish their objectives if they can't access critical resources. In this regard, the scarcity of financial resources is seen as a limitation to the achievement of a prioritised and resourced

sensible CMP: 'Is an acknowledged issue all based around resources... there is not enough money if we are going to deliver a capability that is fit for purpose, we always have to make compromises.'¹⁴⁰⁷ Furthermore, the negative effects of unforeseen resources cuts, and the subsequent adjusting measures, are depicted by a respondent: 'It doesn't help in the trust side when the resources promised ... Suddenly the resources are reduced and... you have spent a lot of money and we've got to re-scope the requirements to deliver some form of capability with less resources.'¹⁴⁰⁸

In addition, a perception about the dilemmatic nature of issues mentioned by the respondents, was enunciated by a senior military officer: 'I think they are all accepted issues, rather than issues we can do anything about... unless we completely revisit how we deliver capability... we stop delivering capability, we just buy off the shelf, and not worry about political industrial impact of who you buy from, and then you can buy a lot of the kit you need now, rather than developing our own bespoke stuff.'¹⁴⁰⁹ Moreover, in another respondent perception, these different priorities are seen as healthy tension 'I think that most of this is healthy tension (Front Line Commands – DE&S manager).'¹⁴¹⁰ However, in general, in an individual's view, there would be no issues, 'I can't think of any issues.'¹⁴¹¹

Finally, in the S&T representative view, there would be no choice to get to the habitual route, 'I don't think we can get, we can ever move to this point here [habitual route]. Because I don't think the CPG fundamentally has the trust across the service boundaries.'¹⁴¹²

4.2.1.5 Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust.

Possible promotion

Mentioned previously, when presenting CPG members' views about interpersonal relationships between CPG members and issues regarding the interpersonal trust determinants, the impact of an individual's actions in a CPG towards his career is manifested as a factor which influences CPG members' behaviour. First, the reporting chain is mentioned as something that influences the behaviour of an individual, in particular in-service personnel: 'My reporting chain decide whether I get promoted or not. So yeah, that sort of factors absolutely.'¹⁴¹³ This is explained in the view of another respondent: 'In the CAP [capability planning] areas there is no latitude to not be, say, afraid of your career on what you are saying. Obviously, if you don't do a good job then you won't get promoted. Everyone's promotion centric...'¹⁴¹⁴ In practical terms: 'You don't want really irritate your... the person who writes your report, or the person whose writes his either.'¹⁴¹⁵

However, in the view of a senior military officer, this aspect impacts people in different manners, with a higher impact in more junior personnel and lower impact in more senior personnel: 'In terms of career progression, is easier for me, because I am a senior member [OF5] of the CPG... if you are a Major

[OF3], you'll be somewhat more guarded in what are you willing to say and how are you willing to challenge.'¹⁴¹⁶

Financial situation

Uncertainty in relation to the provision of financial resources also was mentioned as a relevant factor influencing interpersonal trust. As expressed by one of the CPG members: 'Sometimes, I am not sure what his [Deputy Chief of Defence Staff (Capability), DCDS(CAP)] priorities are... Sometimes, it's a little bit of everything. Which capability does he give up to deliver what he has been told to deliver within resources? So that's the dilemma... Trust at the moment is all about who's got the money and is he going to help me.'¹⁴¹⁷ Moreover, this aspect was deemed to be related to priorities at the inter-capability area level: '[the] Continuously evolving financial situation which could undermine the trust. It is not known what the priorities are in the different areas of capability.'¹⁴¹⁸

Difficulty to operationalise priorities in terms of capabilities

As already mentioned, the impact of the financial situation is perceived as related to the allocation of priorities between different capability areas, and between different capability planning areas into a sole capability area: '[where] Is all the money from defence going to? ... how much of that are going to get to deliver what we need? Who is calling the priorities across the whole of the capability area? What is the priority we need to deliver, because some of these in this area [another capability area] may impact on my area. Because it is quite complex these are done by platforms, not by capability areas, so we have got discrete areas of capability, but every area of capability has [impact upon other areas] say ISTAR [Intelligence, Surveillance, Target Acquisition, and Reconnaissance], or it has communications, which we need to invest in.'¹⁴¹⁹

Sub-organisational (single service) agendas

The existence of sometimes conflicting objectives between the services, and how this could affect negatively behaviours, is depicted by a respondent: 'Every service fights for his own slice of the pie. And they would do their best to undermine your position if they can. That is a weakness in the CPG...'¹⁴²⁰ Furthermore, those conflicting objectives are seen as quite strong and difficult, if not impossible, to break down: 'I don't think you can ever break those down. Single service rivalry is a strength, but also undermines in part CPG. I think there is a genuine desire to be honest but the nervousness is that honesty doesn't do you any favours.'¹⁴²¹

Sharing and exposing information

One of the VTs challenges has to do with the willingness to share knowledge that is confidential or sensitive in nature. In this CPG, views articulated by members highlighted the possibility to share information in a more restricted format: 'Selective use of information... the thing which allows the virtual CPG to work is that you don't have to pass incriminating information to everyone. Therefore, if you want to discuss things... you can leave out people you don't need to know that information until you are in a position to have it tested in a

wider context.¹⁴²² However, there would be also situations where this could undermine decision-making, as expressed by another respondent: 'I do think that the fact that is such an inclusive arrangement means that we do struggle, at times, to make the decisions in the CPG, which means that you tend to do your discussions outside of, in the more virtual, restrictive format, of the CPG.'¹⁴²³ One example of the reasons for withholding some level of information is given by a CPG member: 'I don't want to be exposed too widely the amount of risk that I have got in my support budget. Because, if I do, then, they'll take it.'¹⁴²⁴

A respondent did not identify any risk beyond the interpersonal relationships regarding interpersonal trust, 'I am struggling to think of anything.'¹⁴²⁵

4.2.2 Capability Planning Group 2

4.2.2.1 Cluster 1. Perception about performance

Work in the CPG at present

Perceptions about how work is performed at present, utilising VTs in capability planning covered views with positive, neutral and negative connotation. Positive ideas expressed by the respondents had to do with:

- 'Effective' integration of relevant stakeholders in the MUC,
- A more effective outcome of capability planning,
- Better integration of new capabilities with a smoother transition, and
- The positive input represented by the previous knowledge of other individual members of the CPG.

Firstly, regarding the integration of the views of relevant stakeholders, having positive outcomes as a result of that, the CPG Chair states 'Overall is very positive, by bringing in the MUC we are helped to see a lot more problems than in the old model, when we provided the capability across the user, and then just said there you are get on with it...The commands are involved with the planning group right away - is probably the most crucial element... You end up with buying in the principal stakeholders right at the beginning... they keep getting their inputs all the time as the situation evolves.'¹⁴²⁶ Furthermore, the User representative highlights the impact of integrating the different views, facilitating the identification and solution of problems 'Now, because everything is worked through... [the] TLM process we are able to recognise [issues], discuss... so you have all the players [involved]... [If an issue appears] is within that sphere, within the resource envelope, then the problem is solved there... If it's not [possible to solve the issue], then goes up to the relevant planning or delivery area.'¹⁴²⁷ In the User representative view, this allow issues to be managed 'So, the issues are already there, recognised understood and they [the CPG members] are all working in the same direction to address the problems.'¹⁴²⁸ The DE&S representative, presents a consistent opinion with the idea of bringing in the relevant stakeholders and addressing the issues: 'Philosophically is good, it gets the right people together, it discuss the right issues.'¹⁴²⁹,

together with adhering to the perception that CPG allows better management of capability in a wider capability taxonomy context: 'At each level, you can work out coherence and trade both capability, finance, cost, time. All those sort of issues, you can resolve issues, whereas previously you couldn't resolve anything in your stovepipes until you get to the top and then overwhelmed by the detail.'¹⁴³⁰ In addition, in the S&T organisational area, there is an activity performed previous to CPG meetings hold in order to prepare the S&T's point of view to be presented subsequently in the CPG meeting 'We have a separate research meeting [stocktake] that we hold by a week or 2 weeks prior to the CPG... we understand what the research is, what the results are, where things are going and whether it is going in the right direction, and then informs the CPG the following week.'¹⁴³¹

Secondly, in relation to the idea of a more effective outcome of capability planning, this is expressed by interviewees in terms of a general positive perspective of the CPG: 'Is a very positive move... the idea of the CPG and we have become more effective as a result.'¹⁴³², having more focus: 'CPG is possibly more focused [than CWGs]'.¹⁴³³, and more efficiency of the capability that is put in place: 'I think we get better value, more efficiency out of the capability that... we subsequently put in place.'¹⁴³⁴.

Thirdly, in relation to smoother transition through the different parts of capability management, resulting in a better integration of new capabilities, the Chair points out that 'Is a much smoother transition... because users have been involved in the process.'¹⁴³⁵ In the User representative view, 'TLCM is infinitely better than the previous structure... it allowed us [User], to take far greater control over the integration of DLoDs to generate capability.'¹⁴³⁶ The User representative added an example of how new approaches, better in his view, can be operationalised for introducing capability gradually, as opposed to 'bang delivery': 'capability would be delivered... at the same time that the preceding aircraft or capability goes out of service, we see that but at the FLC, because we are now in charge of the process more than it was in the past, we are able to take a stage approach and introduce that capability in sections.'¹⁴³⁷ Furthermore, the Chair summarises the outcomes in terms of capability planning 'CPG will have ownership of the decisions as we go through so we brought in many different mentalities and different relationships and they should, and does I think, provide a more balanced outcome in terms of decision-making regarding planning.'¹⁴³⁸

Finally, another positive perspective about work in the CPG at present, according to the interviewees, is related to the previous knowledge of individuals before actually being assigned to the CPG. In this regard, peripheral cues related to interpersonal trust determinants could facilitate the initial attribution of trust. '[In] the CPG we work together reasonably well, we know each other pretty well. We work in the same area a long time. OK, desk officers change every 2 years, but they not all change at the same time and the team has been fairly coherent.'¹⁴³⁹ In addition, another aspect highlighted by a respondent was that CPG members are in contact through other activities or responsibilities which would allow interaction between CPG members outside of

the virtual context or capability planning activity: 'Works well because they know each other from other meetings. Otherwise, it would be really difficult.'¹⁴⁴⁰

In summary, positive views about how work is performed utilising VTs in capability planning are coherent with the DE&S representative's perspective in the sense that, as he expressed 'Philosophically, it is a much better idea. Where we consider projects as a subset of the programme, which I think is all part of to drive through life capability value for money and in the old days it was very stove piped, all worked vertically, whereas the doctrine of having CMGs, Programme Boards, Project Boards, and CPGs in a coherent fashion, all reporting through. I think is doctrinally really good, very powerful.'¹⁴⁴¹ In addition, the User expressed 'It's that ability to identify who owns the problem/issue, who should deal with it, can it be dealt with, do we need change resources. Do we need to change this options. So, it's a pretty good working team.'¹⁴⁴²

As already mentioned, together with positive perceptions of the work of the CPGs, there were perspectives deemed to have a neutral connotation as well. One of those views was related to the perception of the existence of a developmental process which TLMC would be going through. As stated by a respondent 'We have been finding our way through TLMC.'¹⁴⁴³, or in another member's view 'CPGs are getting there, still quite immature, and that's probably one of the reasons why Programme Boards and CPGs are overlapping, because it is immature the whole TLMC process.'¹⁴⁴⁴ Furthermore, another member addressed the necessity to continue progressing in this regard 'I think philosophically is very good but we still got further to go on.'¹⁴⁴⁵ Although according to one interviewee 'There is a lot of work done out of committee.'¹⁴⁴⁶, another respondent highlighted what he deemed to be the key role played by the chairman and his aides 'A lot depends on the chairman and the skill of the chairman and how much preparation is done on his behalf.'¹⁴⁴⁷ Moreover, the same respondent pointed out what would be a deficiency in this aspect 'The time the chairman and the secretary has to devote to the running of the CPGs probably isn't as good as it should be. It seems to rely very much on the personality of the chairman.'¹⁴⁴⁸ In summary, neutral connotation views about work in the CPG point out for it to be a better approach, but with some pitfalls that need to be overcome: 'There is good behaviour in the CPG, it just need more maturity.'¹⁴⁴⁹. As expressed in more detail by the same respondent 'In my experience where we are now is a lot better than where we were. The trouble is, I don't think we sorted the bureaucracy out. There is a lot of effort to make it work and, there is overlapping roles which we haven't resolved. So, I think it's better, more to do and is immature.'¹⁴⁵⁰

Views deemed to have a negative connotation were related to a suggested lack of clear structure and resources, to perform capability planning activities. Regarding structure, one respondent expressed 'I think, clearer structure would be helpful. Clearer evidence of performance. I think we act in a very subjective manner I would like to see more objectivity towards performance.'¹⁴⁵¹ This idea is linked by the respondent with deficiencies which impede new CPG members to get involved in a sensible manner 'Currently it does rely on the quality of

individuals... I don't think there is a good structure for them to just arrive.¹⁴⁵² Moreover, some of these deficiencies were related to scarce resources 'I'd prefer to have a bit more rigour, a bit more preparation, and a bit more structure. But, all of that takes time and resource, that's the trouble, we haven't that resource.'¹⁴⁵³ The same respondent argued that this lack of resource would be a reason for under optimal performance 'I don't think there is sufficient preparation. I don't think people are given the time and resource to do it properly... So, everything is rushed, and not done optimally.'¹⁴⁵⁴ Furthermore, there is a perception that financial constraints are weakening the whole scope of CPG activity 'There are frustrating times when I think the whole work is undermined by the level of savings that we are put up to.'¹⁴⁵⁵

In addition, another pitfall mentioned would be related to not making adequate exploitation of S&T inputs. This aspect was underlined by the S&T representative 'Certainly research tend to get pushed out a little bit.'¹⁴⁵⁶, as well as another member of the CPG 'I don't think we are exploiting DSTL as much as we could do... We are not optimising S&T to best effect.'¹⁴⁵⁷

Work in capability planning as it was performed in the past

In this CPG, there weren't members with experience in capability planning activities before the introduction of CPGs, that's why, based on personal indirect perceptions, a CPG member sketched what would be a general difference between present and past modalities to undertake capability planning activity 'Before it didn't really have an aim or understanding of what it was doing in terms of the CWG [Capability Working Group]... other than join stakeholders together and trying to get a common picture, whereas the CPG to some extent has some more focus on ensuring capability planning and future capabilities ... have the evidence they need and the risks are properly identified and managed at the right level. And issues are properly discussed and aired.'¹⁴⁵⁸

Virtual work

In relation to the adequacy of virtual interaction to perform capability planning activity, one of the respondents view is positive in the sense that virtual interaction allows relevant people to be aware of activity being developed 'It's a very good VT working there and it's by the TLM process that enables everyone to have visibility of the issues.'¹⁴⁵⁹ In another member's view, the fact that some of the members already know each other and had interaction in other fora, within the capability area, facilitated CPG activity 'That means is that you get to see the people, meet them, talk to them and interact with them. ... I found last year [interview performed in March 2011, before any CPG meeting in the year] there was a very effective framework for establishing [interpersonal] trust within the CPG, as well as making the network work quite well.'¹⁴⁶⁰ Although this latter perception is not agreed by another member who seems not to be part of the broader context where interaction between CPG members is hold in a more regular basis 'I think the CPG hasn't work particularly well, in terms of capability planning, and that's because the network is, it seems to be a meeting every six months. I think the personal interaction is essential when you do it... when you've invested in getting people together, you actually make the most of

that opportunity to build the trust, and to reinforce and develop the group, rather than just sit down, have a meeting and go away.¹⁴⁶¹ Moreover, the respondent highlights that the CPG as such meets formally twice a year 'If I look at the CPG itself formally, which come together twice a year, for a meeting that is probably two hours long. There isn't that interaction around the meeting and it doesn't work in the same way.'¹⁴⁶²

Work organisation

Capability planning activity tends to represent a small portion of CPG members duties. This situation, together with the mainly virtual modality of work utilised, bring in some benefits, but some potential pitfalls as well. Regarding the work organisation of CPG activity, aspects that were mentioned by CPG members were deemed to have neutral and negative connotations.

On the one hand, it was mentioned that CPG meetings are performed as part of a much bigger number of meetings 'You end up going from, usually two meetings in a day, and then two meetings the next day. Same, not exactly the same people, but a large, the sort of top level of them, are moving to the same meetings and other people come in.'¹⁴⁶³ In this regard, one respondent pointed out the necessity of time, in addition to the meetings, to fulfil his role 'Actually what you need is not a meeting, is time to consider the issue and to either sponsoring or to formulate advise. Is not just talking about it that does it, I think.'¹⁴⁶⁴ Moreover, an interviewee missed an approach to work underpinned by more evidence 'I would say you perform better if you say well, that's what he thinks and that is also backed up in some evidence. So the evidential trial. If that was stronger I would say the overall trust would be better.'¹⁴⁶⁵

On the other hand, negative connotation perceptions revolved around the ideas of a lack of clarity of roles between CPG and Programme Board, what would be the subjective nature of the activities, scarce resources, lack of training and the involvement of people with the right skills and characters.

First, the User representative argued about the lack of clarity in the roles of CPG and Program Boards 'The role of the delivery area [directed by the Program Boards] in relation to the planning area.'¹⁴⁶⁶ According to him, there is a blurred line between planning and delivery activity 'There is something in terms of process that I don't think defence has fully grasped yet that area between the CPG and the Programme Board whilst it might be able to say that's the planning area and that's the delivery area, it doesn't really work like that not when you are into strong one-stars.'¹⁴⁶⁷ Moreover, roles seems not to be well defined in his view, and that would affect CPG work 'I think that defining the role of the CPG and the program board is a key facet of that [improve CPG work]. At the moment is not well defined'¹⁴⁶⁸ This latter situation is deemed, by the respondent to be conducive to a weakness of the CPG in relation to the Programme Boards, affecting efficiency in the work performed 'The CPG has been sidelined, and the TLCM to a very large extent, and the CPG is definitely overshadowed by the Program Board and is not working as efficiently as it could do...'¹⁴⁶⁹

Second, the DE&S representative alluded a subjective nature of CPG activity. In his words 'It's very personality driven, is very intuitive.'¹⁴⁷⁰ Furthermore, he highlighted a necessity for more preparation and, again, more structure and objectivity in the work performed 'A lot of the activity is anecdotal... I think we could do better preparation, better distribution of papers, better performance management, be more institutionalised.'¹⁴⁷¹ The third point raised was related to a lack of resource (time), to fulfil sensibly responsibilities regarding the CPG 'I think there is an issue of resource. Is the pace of life in MoD, fast. The people just arrive at a meeting.'¹⁴⁷² Furthermore, the respondent elaborated about a possible cause to it 'The other thing is one of time, the whole tempo of business is very fast. I don't think we allocate the time that we would like to optimise CPG behaviour... maybe training is an element to it.'¹⁴⁷³ That lack of time would be, in one respondent perception, a cause to not to sit the training activities available with TLM ends 'People haven't done the training because we are trying to do it so quickly ... I haven't done the training. I am pretty convinced that a lot of other guys at the CPG haven't done the training that we should have done.'¹⁴⁷⁴ Finally, another perception deemed to be negative addressed the fact that from one respondent point of view, sometimes inadequate individuals can undermine the overall CPG objectives 'The other issue is that you get people with varying qualities, abilities, characters and if they are not the right, the right people in the right job, then they can make a serious debt in progress...'¹⁴⁷⁵

4.2.2.2 Cluster 2. Nature of the interpersonal relationships

The perception of the CPG members about interpersonal relationships, was portrayed through views of different nature. Those perspectives were elaborated by the respondents based on their perceptions and were organised around two main themes.

Relationships

In the view of respondents expressing ideas with positive connotation, interpersonal relationships would allow to interact working comfortably. Although personal interaction is deemed to be necessary to address complex issues, some past difficulties to interact virtually were perceived.

In general, one interviewee pointed out how at present capability planning is performed integrating different views, at different levels, in the context of what is an overarching taxonomy of capabilities '[In the past] it was very much personality dependant, what we have now is a community of players at various levels working together in the same direction. And that's because we have the overarching plans for the area, for the individual capabilities'¹⁴⁷⁶ Certainly, from the S&T representative's point of view, there is an open opportune interaction between his function and other CPG members 'The relationship with the rest of the CPG is pretty strong... they contact me if there is issues or problems or questions they want answered, and I intend to contact them there's issues advising with them... Because the contacts are there we are very comfortable with making those contacts that we need to'¹⁴⁷⁷ Although CPG activity is depicted positively, an interviewee mentions the need for collocated activity to

deal with issues of a more complex nature 'It works very well, but you can't completely replace human contact with virtual means... if you have to work through a series of complicated issues with a number of people, or to make people to understand not just the people, but the environment they work in, you can't replace human interaction.'¹⁴⁷⁸ Regarding this latter point is opportune to mention that in the perception of one CPG member, there are other capability areas with more arid settings 'Another environments where they are far more competitive and confrontational.'¹⁴⁷⁹ Furthermore, a respondent mentioned trust difficulties experienced in the past between some CPG members, in his view, because of the lack of an adequate process to engage in virtual interaction, 'The relationships are actually very good. Three years ago [after the official introduction of TLCM and the MUC], there was a DLoD mistrust between the HQ group staffs here, MOD stations and DE&S because I don't think there was a proper process in place to engage the VT'¹⁴⁸⁰ In any case, the S&T representative mentioned that they established a meeting (stocktake), which is carried out before CPG meetings, to prepare S&T inputs to the CPG in a more sensible manner '[the] stocktake has kind of got the community together. So, we do all know if anything is going on and hence the whole community working together.'¹⁴⁸¹

Regarding views with a neutral connotation, in the perception of one of the respondents, the Chair, characters of people involved would be influential 'I don't see the CPG being different to any other societal group that you take, it will be driven by characters undoubtedly.'¹⁴⁸² In addition, according to the CPG member, this aspect would be relevant despite the existence of commonalities between CPG members 'People in the CPG have a common background, common goal, but it will always be personality driven as well... It is particular to each group individual characters...'¹⁴⁸³ However, despite the virtual approach to undertake capability planning activities, some degree of collocation is deemed essential by another interviewee 'The people part of it, absolutely still have to meet at some point.'¹⁴⁸⁴

Another aspect raised by CPG members was the degree of previous knowledge between them. According to the R&Ps member, in the capability areas, we know people already to some extent.'¹⁴⁸⁵ In his view this would be the case because some times people have related service career paths 'In the CPG when you come from the same areas, that network to some extent probably already exist. Not comprehensively, but it does to some extent. And I think that is probably critical to it.'¹⁴⁸⁶ This set of connections, in the respondent's view, would facilitate initial attribution of trust 'In the CPG we know some of the individuals, so immediately we have a framework, where we've got people which trust or not.'¹⁴⁸⁷ This perception is reinforced by the DE&S representative who believes that there are some organisational areas which are closer 'People in the MB [MOD Main Building, capability staff and centre] is very familiar with each other and they are largely drawn from a team of people that know each other.'¹⁴⁸⁸ As a consequence, in his view, there would be core and peripheral members in the CPG 'I think there is a core people who knew each other from their backgrounds and there is a strong relationship, and there is a sort of peripheral one's outside.'¹⁴⁸⁹

When questioned about to what extent the virtual context employed facilitated or made more difficult interpersonal relationships, a respondent stated 'That depends on where the desk officer is in his job-cycle.'¹⁴⁹⁰ In his view difficulties were related to a process to establish initial relationships 'The difficulty is when they are new, and the first six months has gone into establishing that... that trust and going into your piece... that sometimes can be quite fractious [difficult] at first.'¹⁴⁹¹ This process, according to the respondent view, from an S&T point of view, sometimes is more difficult because of lack of opportunity in the delivery of some expected outcomes and about expectations not fulfilled by analysis produced 'In occasions, it has been difficult to overcome particularly if say for whatever reason there has been a miscommunication and analysis may be late or hasn't quite delivered what they thought they would get.'¹⁴⁹² In addition, in the R&Ps representative's view, personal interest in the other members of the CPG is necessary to achieve CPG goals 'If you have personal interest in people... you would understand the requirements and issues better... it makes the network work.'¹⁴⁹³

Finally, in the view of the DE&S representative, the CPG would work well reliant on interpersonal relationships rather than structure 'I think our CPG actually works well, but it's driven by personal relationships I think, less by structure. And is structure what I think should be focusing on more for the future.'¹⁴⁹⁴

Relationships virtual

In relation to the influence of the 'virtual' nature of interaction between CPG members, a member explains that in his view, it is not an obstacle for CPG activity 'My experience is, you can establish very good links between people just using the telephone... I don't find that either e-mail or telephone is a problem at all to discuss the sort of things we discuss in the CPG.'¹⁴⁹⁵ However, the same respondent argues that face-to-face interaction is irreplaceable to achieve a better mutual understanding 'But actually when you meet for the first time, actually talking to them for a couple of months, your understanding of them, what they like, and the environment they work in becomes much clearer and that affect your relationship... you cant replace the personal contact. I don't think the CPG attempts to. Partly because we are, although we are spread out we're fairly geographically close together.'¹⁴⁹⁶ Although, the interviewee emphasise that, in his perspective, to maintain a effective relationship, virtual means would suffice provided that roles and responsibilities are well understood 'I am finding that to understand what they do reasonably well, I can talk to them on the phone usually, or via e-mail. And still have a very effective relationship with them. Key to that actually is understanding who does what within the organisation. And whose responsibilities are what.'¹⁴⁹⁷

4.2.2.3 Cluster 3. Interpersonal trust determinants, as perceived by individuals

Peripheral route

Although the CPG members did not talk about the peripheral route in general, they had views about all the determinants considered in the literature reviewed

and suggested in this research. Perceptions about the determinants influential level varied from one determinant to another, but not dramatically from one respondent to another.

The determinants history and third party information were mentioned as relevant in terms of the initial attribution of trust by the User representative 'I think the first and the last in terms of third party information and previous history would have an impact on [interpersonal] trust in the TLM [CPG].'¹⁴⁹⁸ This view was shared by another respondent 'Reputation [History & Third party information] really that is very strong.'¹⁴⁹⁹

The third party information determinant was signalled as the most influential by one of the interviewees, 'This one is very important [third party information]. The reputational aspect I think is probably the *strongest*.'¹⁵⁰⁰ Consistent with theory, the respondent associated the influence of this determinant, with initial stages of interpersonal relationships development between CPG members 'third party information, I think establishes far more the initial kind of bonds of who you trust or not.'¹⁵⁰¹

History was a well-understood determinant amongst this CPG's interviewees. In the view of a respondent 'History would come into it in our previous ability to deliver, for instance, on that people's work.'¹⁵⁰² History was mentioned as an influential element by some of the CPG members, and as prominent by one of them 'History ... That's very strong I think, this is probably the *strongest* [history], because, you know him, you already trusted him or not.'¹⁵⁰³ However, there was a perspective in the sense that it is possible that it can influence negatively the initial attribution of interpersonal trust 'I've seen something like history, where people have had negative history before, playing a part in the relationships that can be quite interesting...'¹⁵⁰⁴

Disposition to trust was mentioned with different perceptions about its level of influence. Views ranged from a representative who pointed out that it would not be important 'Disposition... shouldn't really play a big part'¹⁵⁰⁵; to another who believe it should be influential to some extent, 'Disposition, I think is reasonably important to me, where would I trust people or not.'¹⁵⁰⁶; and to, finally, a respondent who assign more significance to this determinant, 'Disposition, I am probably tend to be more trusting as a person.'¹⁵⁰⁷ These diverse perceptions are not inconsistent with the idea of disposition to trust seen as a personal characteristic and, as such playing a part according to the innate personality of the CPG members.

Regarding expectations and depersonalised interpersonal trust determinants, rule and role-based factors, where signalled as having low relevance, 'Role and rule... I am less inclined to go along with those.'¹⁵⁰⁸ In the words of another respondent role would have small influence 'Role... I don't think that's particularly strong.'¹⁵⁰⁹ A similar view was held about rule 'I don't think this [rule] applies strongly to me, in developing [interpersonal] trust.'¹⁵¹⁰ Although, according to another respondent, he would prefer to have more rule and role than perceived 'What I would prefer... where we should be heading towards is a

bit more robust systems of work, evidence-based... rule and role... the relationship should be more formalised¹⁵¹¹

Category driven information was regarded as more influential than role and rule 'Category, I think that certainly that does have an impact. Not perhaps one strong as one may suspect... I think this [category] is stronger than this [role & rule] I think, particularly if you are working with civil servant'¹⁵¹² in addition, category was associated by a respondent with rule 'Category comes to my mind related to rules because of hierarchy. I just say particularly if you are working with civil servants, I think. But not in terms of what grade they are, or what sort of civil servant they are [applies to fast stream more than the others].'¹⁵¹³

Central route

With the progression of interaction through time, the deliberate assessment of members attributes is made possible. In one CPG member's view 'In terms of developing trust, it's very much more done based on experience'¹⁵¹⁴ This view was shared between members that mentioned it through the interviews 'I am a firm believer of the central route, having face-to-face built on a process.'¹⁵¹⁵ However, a respondent depicted the central route as the least relevant of the routes to form trust 'I think I form [interpersonal] trust less through the central route perhaps than the other two [routes].'¹⁵¹⁶

Regarding the relative relevance of the determinants in the central route, there were different views. On the one hand, a respondent perceives ability as the most influential determinant 'I think that the first is perceived ability the perceived ability to get things done.'¹⁵¹⁷ In another interviewee's perspective, ability and integrity would be decisive determinants 'For what we have to deliver, it will be about ability and integrity. Ability to deliver the analysis and that it is valid and robust. And integrity that we are not going to necessarily give them the answer that they want, we give them the answer that is based on the evidence that we have got'¹⁵¹⁸ However, a third CPG member pointed out benevolence and integrity as the most important determinants in the central route 'That is quite strong [central route: benevolence and integrity]. So those are the key ones that I see in the current...'¹⁵¹⁹

Habitual route

In relation to the habitual route, it was deemed to be highly influential by a respondent 'The process of reports, meetings, and success, resolving issues. That's the habit, that makes it work... So, it's a process that people can rely on, and to know what happens, and where all fits in, where do we need to go that means is the habitual route'¹⁵²⁰ Although the habitual route is seen as contributing to VT work, it would not replace central route determinants 'For the VT to work well, you need to get into that area, the habitual route. But in terms of what we need to deliver, then is, it has to do with our ability to deliver and our integrity in what it is what we do at the moment.'¹⁵²¹

As mentioned earlier in 'Work in the CPG at present', in Cluster 1 in this case, previous knowledge of individuals between CPG members is perceived as a facilitating element for the attribution of interpersonal trust 'I think this is very

strong, social bonds and personal identification, because they are all, the core members are all from the same cadre.¹⁵²² This aspect would be in another respondent view stronger between military members of the CPG 'Within the military the social bonds are important undoubtedly, and the personal identification,¹⁵²³

Relation between the routes

First of all, all the routes were found, in the CPG chair's opinion, running in parallel through time 'In the planning group and all relationships that we have, this three [routes] run pretty much in parallel all the time.'¹⁵²⁴ However, there were different perspectives regarding the extent to what the different routes were utilised to build and maintain interpersonal trust. Firstly, a respondent's opinion is that they influence in a similar manner through time 'If you take it day to day there would be one route that is more important than another. ... but if you take it over a period of time, over a year, obviously all of these have a function and are valid. I think they are all even out.'¹⁵²⁵ Secondly, in another's interviewee perception, two of the routes, habitual and peripheral, played a role with similar relevance 'A lot of this [the determinants] applies... peripheral and habitual route, equal standing.'¹⁵²⁶ Thirdly, other CPG member expressed that peripheral and central played similar influence, with a minor role for the habitual route 'Slightly less on the habitual route but peripheral and central have an even standing over workers within the planning area.'¹⁵²⁷ On the other hand, a CPG member stated that the habitual route, after the influence of peripheral and habitual cues, played the most significant role in this regard, 'habitual route... you have to go on, and then experience makes it an habit... this is the strongest [habitual route], very strong in forming trust. Once you've developed this framework [peripheral and habitual route], I think it becomes habitual and it has particularly worked with email kind of thing.'¹⁵²⁸

Furthermore, for some CPG members third party information and history (peripheral route) would underpin early interpersonal trust attribution; further on, ability (central route) supersedes the peripheral cues 'In initial stages people would work on the basis of what other people have been informed about such as a person [third party information]. Whether they are good player, efficient, deliver the goods. That helps, fashion your initial view of them. And it is your previous history also. Very quickly after that... comes down to well, actually what are they like, what they can deliver [ability].'¹⁵²⁹ In addition, in the User representative view, the central route (through ability) and the habitual route (through social bonds) would exert influence in this regard 'Providing that you have a professional bond [*Ability*], and you have the social bond, then that's part of the process is that common understanding, what's the plan, what's the process, what's we are trying to achieve.'¹⁵³⁰ Finally, in the opinion of the User representative, role and rule (peripheral route) are related somehow to the central route to build and maintain trust 'I think this [role and rule] is aligned to the central route in many ways'¹⁵³¹

In this Cluster 3, CPG members part of Case 3 presented views about all the determinants associated with the peripheral route, expressing different views, giving pre-eminence to history and third party information. Subsequently, when

addressing the central route, opposite views were depicted as to the central route would be the most or the least relevant to form interpersonal trust. Finally, the habitual route was depicted as highly influential, although it would not replace determinants acting through the central route. In summary, according to the CPG members, the routes played a role in building and maintaining interpersonal trust. However, there is no complete agreement about the level of influence of the different routes and their determinants.

4.2.2.4 Cluster 4. Existence or non-existence of issues, regarding interpersonal trust

Perceptions about issues regarding interpersonal trust reflected different ideas. First, in one respondent's view, there weren't issues related to the central route 'I do not see any specific challenges within the central route.'¹⁵³² In his view, there would be a challenge to allow the different members contribute in a similar manner 'That's probably the principal challenge. Making sure that has social equality and making sure that everybody has an even voice within the planning side.'¹⁵³³ Another interviewee, who perceives himself as not being a member of the closer community of the capability area of the CPG, sees a certain degree of reluctance of incorporating 'outsiders' to activity 'there is a tension there, as to whether or not you have outsiders like me.'¹⁵³⁴

Civil-Military differences

An issue raised by the Chair of the CPG was about differences between military and civilian members. On the one hand, he mentioned that civilians add a positive element of balance to CPG activity, bringing in perspectives that complement each other 'We have in the CPG [people] from different backgrounds... civil versus military, there is undoubtedly a difference now when it comes to planning groups that is probably very positive... it provides the requisite balance, they would probably consider other elements that maybe the military will disregard because they are quite goal focus'¹⁵³⁵ On the other hand, the respondent depicts a negative perception about civil servants as being too much driven by bureaucratic aspects 'Challenges can be primarily in the habitual route... by the civilian-military side, again it is probably, if I take it in a negative way to start of with. The military will often regard civilian counterparts as sloppy [not diligent], intransigent, pop down in bureaucracy.'¹⁵³⁶ In the end, the interviewee alludes a need to overcome prejudices to perform better 'I think within the habitual route we are almost talking about breaking down prejudices as much as anything ...Breaking down those tribal bits, I think that opens the flow of communication and reception to ideas as well.'¹⁵³⁷

4.2.2.5 Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust.

Perceptions about this kind of risk reflected diverse ideas recognising the existence of diverse exogenous elements that can influence interpersonal relationships. First, a respondent recognised that there are external factors influencing interpersonal trust, although he struggled to elaborate on one of them 'There are outside factors influencing people but what they are... I can't

see any in particular that influence our CPG.¹⁵³⁸ In addition, another respondent mentioned two potential risks 'There are personal ambitions, there are pressures from outside via the, maybe single service pressure, lobbying from industry through DE&S.'¹⁵³⁹ Second, the CPG Chair's view is that the mentioned kind of risk has a low level of influence on interpersonal trust 'I would like to think that only affect planning on the periphery [risks beyond interpersonal relationships...].'¹⁵⁴⁰ Although his perception agrees with other CPG member, arguing that there are a number of factors than can exert influence 'There is circumstances at a time and there are so many of this things that can affect... let's say that this is also to be affected by the length of time somebody is in a job which again is different in the civilian side, we do 2, 2.5 years maybe three at the push, the civilians might be in the same job for five years ... does that affect their approach to risk? I suggest it does.'¹⁵⁴¹ Furthermore, the Chair mentioned that he doesn't manage these risks 'I don't manage this [risks beyond interpersonal relationships...] in any manner, subconsciously we manage it all the time, selfish versus altruistic behaviour.'¹⁵⁴² Third, in the opinion of the R&Ps representative, there is an aspect that gravitates in terms of interpersonal relationships, because of one of the characteristics of the work environment in the MOD 'The biggest one is the framework you work in the MOD which is quite compartmentalised and quite divisive at times.'¹⁵⁴³

Possible promotion

Three members of the CPG mentioned the prospect for further promotion as a potential source of risk with contrary views. All of them were in-service officers. On the one hand, a respondent rejected the idea that career aspects would play a part 'I don't think the career aspect drives [influences interpersonal relationships between CPG members].'¹⁵⁴⁴ Conversely, another member maintained that it influenced CPG activity, particularly if the individual is close to change appointment 'It is another element if we are working in a given appointment... you react quite differently early on in your tour to what you might do towards the end you know, maybe you are coasting [just doing the minimum] because you are thinking on your next job or actually when you would have taken a bold decision that's better not to go further because it can affect my next appointment.'¹⁵⁴⁵ The DE&S representative pointed out that in small capability area communities, individuals are conscious that is likely that the inter-equals relationship in a CPG can change in the future, for a superior-subordinate relationship 'In the CPG everybody comes from the same cadre... you know the guy above you is going to be your future boss.'¹⁵⁴⁶

Financial situation

One of the interviewees mentioned this element as a risk 'the financial situation to one extent.'¹⁵⁴⁷ Furthermore, another respondent, the User representative, elaborated about financial constraints that are setting tight saving objectives on CPGs 'I can't say I have seen anything out of the ordinary or beyond what you'd expect; the center, specially, the other resources and capability staffs are driven by resource issues, they attempt to save money, but it is quite clear that where they are coming from they've been given challenges and targets'¹⁵⁴⁸

Difficulty to operationalise priorities in terms of capabilities

The CPG is seen as bringing together different views 'The CPG sort of encompasses people who represent those views whether that is a money view, a capability view, a single service view, whether a DE&S view. And I think understanding that, that structure, is probably the key one.'¹⁵⁴⁹ Furthermore, the respondent hesitates to understand differences with the existence of single service agendas 'Different priorities and single service agenda. I don't know if it's the same one, or there are two different risks'¹⁵⁵⁰ In this regard, interpersonal relationships are perceived as an element that helps to surmount the diverging priorities of CPG members 'Different priorities is a risk, in a large extent it is overcome by the interpersonal relationships.'¹⁵⁵¹

The S&T representative relegates the relevance of further promotion influencing interpersonal relationships. In his view, the salient aspect would be the conflicting priorities between the views represented in the CPG 'In terms of things like people looking for their next job or looking for... or promotion... I haven't seen that myself. But it would be more about... protecting or defending or pushing forward capabilities and people having different priorities, and those priorities conflicting with each other, within the group.'¹⁵⁵² Moreover, the struggle of different priorities is understood as the expression of interests to gain financial resources and direct them according to particular priorities 'Defence funding.... So, from a CPG perspective, different people get asked different questions, probably in different ways. Which can then lead to... different parts pulling in different ways. So, there will be a lack of trust where one part of the CPG is pulling the capability to another part, for instance take the money from one program which might be somebody's pet programme and move it somewhere else, or even delete it all.'¹⁵⁵³

Sub-organisational (single service) agendas

The CPG Chair acknowledges the existence of external factors related to 'tribes' 'There are always different loyalties, respect for tribal loyalties, this is a constant problem that I have; I work for a joint organisation.'¹⁵⁵⁴ Another member points out to this kind of interest as an element with strong influence 'Single service agendas in the MOD are just rampant... I think this is the one that dominates. In term of trust is this [single service agenda], because is really divisive.'¹⁵⁵⁵ In the words of another CPG member 'Probably we are too single-service focused, and we are probably too xxx [CPG's capability area] focused, and that could be a risk.'¹⁵⁵⁶

Also, the fact that the services HQs are not represented formally in the CPGs is seen as a cause for pressures from the services to the CPG members 'The CPG doesn't have formally a member of the Air Staff there. Which is why we, where we end up offering the single service view, or moderating it,'¹⁵⁵⁷ Those agendas would be pushed tangentially to the CPG 'I think this is a big risk [single service agendas]... that's within the CPG is mitigated by the fact they are not in it formally, and so actually the risk is that single service agenda is pushed outside the CPG construct.'¹⁵⁵⁸ This is exemplified by another member of the CPG 'A number of times I get called up to by RAF masters to say 'You

are selling our standard - we are losing capability' We do probably and in all directions.'¹⁵⁵⁹

However, the User representative underlines that in this context his function is to enforce the user perspective 'As the User representative, at the CPG it's entirely right and proper, that I go to the CPGs to put the user point of view forwards as to what's our understanding what defence requires so pushing the user position.'¹⁵⁶⁰

Sharing and exposing information

In the view of one of the interviewees, there are people who manage much more information than other, thus having a clearer perspective 'This is a risk actually, between the Centre, the MOD, particularly where we know what's going on much more than other people do. And other people who are not been given very much information and probably unaware in quite much detail of the financial situation.'¹⁵⁶¹

4.2.3 Capability Planning Group 3

In the Case 3, one of the CPG members sits in another CPG, in the same capability area. His views allowed to show occasionally, the CPG considered (CPG 3) in comparison to another CPG with some differential characteristics. The other CPG is identified as CPG B in the narrative of this case. In any case, the views of all the members of the CPG were organised grouping the data gathered in the cluster and themes already sketched in Figure 4-3.

4.2.3.1 Cluster 1. Perception about performance

Work in the CPG at present

Perceptions about performance of the CPG were related to what were deemed positive, neutral and negative connotation views. Positive perspectives alluded major clarity, that the capability planning process is improving, and a comparison to another CPG located in the same capability area

From the outset, the CPG is seen as a mean that provides better clarity in capability planning activity 'There is greater clarity on the purpose of the CPG, its role in the planning space, and I think the whole process of TLM.'¹⁵⁶² Moreover, in the view of another CPG member, it is a forum for effective stakeholders engagement 'the CPG is on now working is a real good example of stakeholder engagement and having a shared set of desired outcomes'¹⁵⁶³, and to exchange the different perspectives brought in capability planning 'I see it as a very useful forum for exchanging views and coming up with ideas, thoughts were head on [facing] capability planning for the future.'¹⁵⁶⁴

Another idea is about what would be a steady state of improvement of capability planning as an activity 'it's getting better; it's starting from a new way of doing business'¹⁵⁶⁵. This is elaborated by another CPG member 'The CPG was [is] improving as a body, because it's now focusing as a mean to managing capability risk and consider risk mitigation, and do a better gap analysis to

identify shortfalls. And instead of just being a talking shop, it's now become more of an action orientated organisation... either pass the risk up to the CMG, or deal with it.¹⁵⁶⁶ In addition, the use of CPGs was pointed out as a more useful approach to address the existence of vested interests amongst the MUC members 'areas that have vested interests in what the outcomes are ... that works far better under the new CPG construct that ever did before'¹⁵⁶⁷

As already mentioned, there is a CPG member who participates in another CPG as well. In his view, this CPG is a successful decision making body 'In xxx [CPG 3] we've achieved a real unified customer that takes decisions together.'¹⁵⁶⁸ The reasons for that view were mentioned as 'The xxx [CPG 3], I would have held it up as an example really. It was very good, understanding risks, performing well, communicating the decisions with each other prior to getting together that want to be discussed, discussing it. Coming to a decision that you believe people would going to go and do something about it.'¹⁵⁶⁹ In the respondent's opinion, this good performance is related to a perceived effort to gather the perspectives of all the members of the CPG at the outset 'xxx [CPG 3]... have worked incredibly hard to gather the thoughts and concerns, and needs of the other members of the MUC... because their needs have been gathered in the first place they tend to behave a lot better in terms of being part of it.'¹⁵⁷⁰

Respondents' perceptions comparing CPGs and addressing affordability issues were deemed of a neutral connotation.

The respondent that is in a position to compare two related CPGs stated that both CPGs are very dissimilar 'The two CPGs that I am part of, they both they do perform very differently.'¹⁵⁷¹ The CPG that we are looking at, in this case, works towards a straightforward capability planning area and service, members belong to a small cadre which would reduce room for potential conflict 'the xxx [CPG planning] area... is entirely focused on the xxx [CPG's capability area service] and is only populated with xxx [CPG's capability area service] people and, so ... there isn't a conflict'¹⁵⁷² Conversely, the other CPG covers a broader spectrum and has had staffing issues, being less auspicious 'xxx [CPG B]... partly because of staffing issues and partly because of the fact that they cover a much broader spectrum, we've been less successful in gathering these needs'¹⁵⁷³ Furthermore, in his view the difference in performance is due to 'small' causes 'What for me have been relatively small causes has led to a quite a massively different levels of performance in those two CPGs. And I would say that it is behavioural, and is about [interpersonal] trust.'¹⁵⁷⁴ These ideas about the two different CPGs expressed by the interviewee were presented as the explanation for differences in performance 'I think xxx [CPG 3] has come a long way in the last eighteen months, whereas xxx [CPG B] has stayed very steadily... very flat line.'¹⁵⁷⁵

In another respondent's view, the scope of affordability issues has blocked the benefits of capability planning in terms of CPGs potential 'They are forum with real potential but they've been inevitably never really delivered all the potential because we've never really got to an affordable position.'¹⁵⁷⁶, and in terms of improvements in clarity mentioned by another respondent 'I think, in essence, we have made progress in clarity. But, we're not been able to deliver all of the

benefits, because we never had any stability.¹⁵⁷⁷ This situation also is seen as making room for the return of behaviours where decisions would be made by only a reduced circle of people 'The CPGs started to move in the right direction. I think the problem we have... the new term funding crisis... a small cadre of people think about what you need to do in order to get back to an affordable position.'¹⁵⁷⁸

Regarding perceptions with negative connotation about performance in the CPG; ideas about excessive bureaucracy, excessive cross over and the availability of time to perform duties related to CPG activity were enunciated. Finally, a comparison of some aspects between two different CPGs is elaborated by one interviewee.

In the User representative view, there would be too much process 'I think that now there is too much process. Quite often, there is an obvious solution, or there is an obvious way ahead should we say.'¹⁵⁷⁹ Thus, in his view, there is room for the capability planning approach to be streamlined 'it can be faster, tightened [drawn or stretched so as to be tense] and there are too many stakeholders to some extent.'¹⁵⁸⁰ From the respondent's perspective, some of the other stakeholders should be incorporated later on this process 'CPG should really be looking at the capability. Working at what solution would be with a minimum number of agencies and then, once the solutions have been identified, the way ahead has been identified, that's when they open up across all the DLoDs to a much wider audience and then bring their inputs in to develop.'¹⁵⁸¹

Another aspect is the extent to which capability planning takes an holistic approach from the outset '... there is too much cross over certainly... We have got too far, we have got completely far, we have got all these different... is so joint it doesn't make sense, it's all mixed up, doesn't make sense.'¹⁵⁸²

Further, the availability of time to perform CPG activities is deemed insufficient '... the degree to which people arrive prepared... Because people are quite busy, generally speaking, they may not be even prepared to the meeting they may not turn up properly focused.'¹⁵⁸³ In addition, the dynamics of activity allows for the CPG to 'capture' what is happening in capability planning terms 'because work at desk-level is fast moving... the CPG really just captures what has been done and endorses it.'¹⁵⁸⁴

In the case of the respondent who sits also in another related CPG, named CPG B, some behaviours observed in that related CPG are described. First, the perception of lack of endorsement to the 'unified customer' idea 'In xxx [CPG B] we have got a CPG that is chaired by Cap, and run by Cap, and is seen as being a Cap business.'¹⁵⁸⁵ Then the view that meetings would follow a rigid pattern 'The CPG meetings [CPG B] tend to be dominated by Cap, broadcasting to a room full of people, with ten minutes for discussion at the end.'¹⁵⁸⁶ Moreover, the respondent argues that the recurrent absence of some CPG members to the meetings would undermine the CPG's ability to make effective decisions 'A lot of the time I see deputies that have been sent to the CPG [CPG B] meetings, rather than the member themselves, and it doesn't

make decisions in any way near to an effective way.¹⁵⁸⁷ Furthermore, and in coherence with the view expressed by the respondent related to a lack of trust in CPG B, the respondent compares both CPGs 'In xxx [CPG B]... you didn't believe that people would [be] going to go and actually do what they are saying they are going to do. Whereas, on the xxx [CPG 3]... we have very good people in there.'¹⁵⁸⁸

Work in capability planning as it was performed in the past

As in previous cases, some members avoided expressing views about how capability planning was performed in previous models or to make a comparison with present activity arguing lack of antecedents to do that 'I Can't compare with the past, because this is the first time I have ever, had to deal with it'¹⁵⁸⁹

The perceptions expressed by interviewees had to do with a less comprehensive forum used previously to plan capability 'Old CWGs had a reputation of being briefing shops... The decision making and the planning was really done in a very small forum out with the meeting.'¹⁵⁹⁰; and with a less structured nature of previous approaches to capability planning activity 'previously was a little bit more unbound... and now we are learning to use the system'¹⁵⁹¹

Virtual work

The R&Ps representative mentioned the weakness of using the VTC technology to work on CPG matters 'VTC is convenient but actually we all know that generally people at the other end of the VTC aren't paying totally much attention.'¹⁵⁹²

Face-to-face work

The User representative argued that the complex nature of the topics covered in CPG work require face-to-face interaction frequently 'But quite often with the CPG you have to meet face-to-face, because... possibly because it is so complex, there are so many different factors to take into account that you can't get away from meeting people face-to-face'¹⁵⁹³ Furthermore, in another respondent's opinion, face-to-face interaction offer advantages in clarity to deal with CPG activity 'You usually get far greater clarity or you can discuss something face-to-face rather than in an email or then the telephone.'¹⁵⁹⁴

Work organisation

A number of views were coded under the work organisation heading. Firstly, in the opinion of the DE&S representative, the number of processes is considerable 'The totality of all of our processes is quite a big overhead on a small equipment program.'¹⁵⁹⁵ Secondly, another respondent, mentioned that the scope of the responsibilities of CPGs can be at or over a sensible limit 'I think xxx [CPG 3] stayed at a size that was just about manageable for me, xxx [CPG B] is too big.'¹⁵⁹⁶

Other ideas depicted were that enabling capability planning areas have more potential for conflict between the different environments, that is the services that

concur to it 'some of the areas particularly the enabling functions, because they cover all the environments there is inevitably going to be layers of conflict within that'¹⁵⁹⁷ Also, the R&P representative stated that majority of his work is performed with people from one organisational area, the Capability area 'The bulk of my work, I would say, in terms of capability discussion is done in this building with the people on the second floor. Very little with DE&S.'¹⁵⁹⁸

4.2.3.2 Cluster 2. Nature of the interpersonal relationships

Relationships

The CPG Chair, because of a commonality of objectives, regarded interpersonal relationships as very good. Moreover, this idea would be reinforced, in his view, because the members belong to a similar rank level (OF5) 'they are pretty good because they are all aiming at the same thing, they are all at the same level... the chairman of the CPG is slightly dominant above the other members of the MUC but each have an equal voice.'¹⁵⁹⁹ Probably related to the already mentioned context of straightforward capability planning area covered by the CPG, two of the military members of the CPG expressed that they were well acquainted with people in the capability planning area 'I tend to find regardless of the job I go to, I will always know a high proportion of the people that I am working with.'¹⁶⁰⁰ This level of personal knowledge is also mentioned together with a level of interpersonal trust present in the capability planning area covered 'There is a strong degree of trust and all of the players tend to know each other quite well.'¹⁶⁰¹

In the CPG Chair's view, the CPG approach is sound, but it relies on the CPG members to engage and perform 'I think the principles work very well. But, at the end of the day, is down to the CPG leader or chair, and CPG members, to engage with the other members. I think that the construct is there and is sound.'¹⁶⁰² In addition, in another member's perspective, is easier to maintain interpersonal relationships when members are collocated 'It's much easier to maintain a relationship when you are collocated.'¹⁶⁰³ These two views are coherent with the User representative's opinion, who argues that there must be a balance between collocated and virtual work 'it's a careful balance, there is role of the virtual working, but you've got to have that face-to-face time as well.'¹⁶⁰⁴

Regarding 'types' of members that can be found in a CPG, an interviewee characterises two or three types of members 'There are three different types of members in the CPG. You've got the military staff, you've got the civilians, and you then have the Cap Chair, who may or may not be one of the other two groups.'¹⁶⁰⁵ In this context, services personnel would have a preeminent set 'Military members tend to lead, and have more of... peripheral-type relationship, having known each other and work with each other before... civilian members less so.'¹⁶⁰⁶ Moreover, the respondent makes a difference considering the roles of the members, 'We really have 3 tiers, I think, within the CPG. We've got the Chair, we've got the other 3 members, and then you've got S&T.'¹⁶⁰⁷ Furthermore, the respondent argued that the CPG Chair has to have a coordinating role 'Cap Chair, from my view, should just be the person who's

controlling, running the meeting, they are just an equal member of the MUC that happens to be chairing a meeting. So, I think, more than ever, a lot of it comes down to individual personalities.¹⁶⁰⁸

When comparing the CPG to another CPG a respondent characterises the CPG members as part of a closely related community 'The xxx [CPG 3], it's a more focused area, ... And they do have lots to do with each other, outside just the CPG business.'¹⁶⁰⁹ Conversely, the other CPG is regarded as the other way around 'Whereas the xxx [CPG B] team, one or two of them do, but not greatly.'¹⁶¹⁰ One of the reasons mentioned behind this difference would be the amount of people involved in the two different capability planning areas. In the case of CPG B, 'it is too many people... as such it remains much less, much less personal, they tend to come together for a meeting and disappear to do their business again.'¹⁶¹¹ Further, the respondent argues that this situation poses a barrier that slows down the development of interpersonal relationships; although in the respondent's view, increased interaction could, potentially, bring further negative effects as well 'People that see each other outside of the CPG develop relationships faster than people that doesn't see each other. But I think that has strengths and weaknesses, because it brings prejudices with it as well.'¹⁶¹²

Relationships virtual

According to a respondent, virtual teamwork in the CPG context has a place 'there is a definite role for the virtual working.'¹⁶¹³ Similarly, in another interviewee's perspective, technology and travel are not an issue for CPG purposes 'With technology communications, is very easy to pick up the phone, or send an email or travel. Because we are not that widely spaced.'¹⁶¹⁴ Furthermore, the use of CPG 'team sites' is seen as a straightforward mean to keep information flowing between the members 'I think is very straightforward to keep the information flow going and again with shared team sites and all the rest.'¹⁶¹⁵

Regarding views deemed of neutral connotation, a respondent pointed out what in his view would be a weakness of utilising virtual means, when it comes to understanding complex issues, 'if you do rely on the sort of virtual workspace, there is no guarantee that people understand what is being said... possibly because it is so complex, there are so many different factors to take into account.'¹⁶¹⁶ Following the same idea, another respondent argued that 'It works OK, but it's not as effective as everyone being in the same place.'¹⁶¹⁷ Moreover, the lack of collocation would slow down activity and communication flows 'People who aren't geographically collocated ... get to engage later than would otherwise have... because an awful lot of communication flows informally, rather than through formal networks.'¹⁶¹⁸ Furthermore, the personal commitments are also affected by physical separation 'Other thing is that working in a VT... you committed personally to somebody to do something is often weakened slightly being over a distance.'¹⁶¹⁹

Another CPG member stated that peripheral cues that can help to attribute interpersonal trust can be picked from written production 'You can judge people

not just by meeting them, you can also judge people by what they write, how they write it.¹⁶²⁰

4.2.3.3 Cluster 3. Interpersonal trust determinants, as perceived by individuals

Peripheral route

In this CPG the peripheral route was asserted as highly influential in terms of building interpersonal trust. 'Peripheral [route], is predominant... And most will have historical knowledge of the individual'¹⁶²¹ In addition, in another respondent's view, there would be a 'baseline' of trust, because of peripheral cues 'they have interpersonal relationships which have been developed for over many years, so there is a baseline of trust that exists, that the system wouldn't have put them in the position they are if they weren't good people and worthy of being there.'¹⁶²² Though, the use of the peripheral route is signalled as stronger between military members of the CPG 'With the civilian, the peripheral piece is probably not so strong... in my experience that's not a problem if someone is really capable.'¹⁶²³

Regarding the third party information determinant, there were different views. On the one hand, according to the S&T representative, it is seen as exerting influence frequently 'I think really that third party information in our community, in the xxx [CPG's] community is often present. Probably more often than not.'¹⁶²⁴ Although, in the view of the respondent, the process of this kind of information is dependent on the perception of the receptor of the information 'The third party information really depends on the recipient of the information.'¹⁶²⁵ Conversely, for one CPG member, the User representative, it doesn't play a role at all 'The third party information, I always put it to one side, I ignore it, I always form my own view.'¹⁶²⁶

In terms of the history determinant, in an interviewee opinion, consistent with other expressions listened to, it would play a role amongst military and civilians as well 'History plays quite a bit part. And it's not just with the military guys, because civilians with a background in xxx [CPG's capability planning area] tend to move around the xxx [CPG's capability planning area] environment as well... you do pick up with people who have worked together, and therefore is good thing. But, you also come up with people that have worked together and is a very bad thing.'¹⁶²⁷ Moreover, the idea that it can play both ways, thus against building interpersonal trust is reiterated 'It can be hindrance [difficulty] if somebody that you have particularly difficult history with.'¹⁶²⁸

Another view gathered was that history, role and rule would be the relevant determinants for the CPG 'I think that really in the peripheral part you are talking about history, rule and role.'¹⁶²⁹ Though, in the perception of the same respondent, role and rule should have a less important influence 'I think that rule and role plays quite a big part at the moment, more than it should.'¹⁶³⁰ Furthermore, in another respondent view, it would be role the dominant determinant, with the other peripheral determinants playing a minor role 'I think

role [determinant that stand out of the others in the peripheral route], history; and the others I think... play a part¹⁶³¹

Central route

The central route was indicated as influential 'A lot depends on this perception piece here, the central route'¹⁶³², or highly influential 'I think in the central route I think is extremely important.'¹⁶³³, by different CPG members. Moreover, it was argued that this determinant can play both ways 'The central route is also important... equally, trust can be lost here'¹⁶³⁴ This idea of trust fragility is elaborated by another respondent, together with expressing an idea in the sense that when civilians are involved, or in a joint environment, the central route gains more significance 'the fact of the absence of any agenda, the ability to be really objective and integrity is picked up very quickly... in the joint environment or where there are civilians involved in what is largely military business, the central route become all important... And the potential for misunderstanding is also much greater.'¹⁶³⁵ In addition, a respondent's view is that the central route determinants are assumed, to some extent, based on peripheral cues, 'Ability benevolence and integrity is important but it's almost taken as read in that the xxx [CPG's capability area service] wouldn't have promoted them to OF5 unless they have the highest ability, integrity, reliability, resilience'¹⁶³⁶

Regarding the influence of the central route's determinants, ability and integrity were mentioned as the most relevant determinants 'I am not so sure about benevolence, but I think ability and integrity, absolutely fundamental factors in the work of the CPG'¹⁶³⁷ Furthermore, these determinants would be reinforced over time 'The central route, my view of someone's ability, their attitude, their integrity is first and foremost, and that's reinforced by over time seeing how the relationship works.'¹⁶³⁸

For another CPG member, it is integrity the most important determinant 'The first one is the perceived integrity... That if I say something, you know, in the CPG, that is exactly what I would say outside of the CPG.'¹⁶³⁹ Although, for another respondent, integrity is presumed and evidence about its absence would be critical in losing trust quickly 'Integrity is presumed, and I think, if it's tested and found wanting is an express route to lose trust, but I don't think necessarily is critical in gaining... the presumption is that, particularly in the military, people will have integrity.'¹⁶⁴⁰ Furthermore, the same respondent argued that ability would be presumed as well 'Ability... you can presume they are able until prove otherwise.'¹⁶⁴¹

Although benevolence is perceived as an interpersonal trust determinant 'Benevolence... engenders quite a lot of positive feeling and trust towards and individual.'¹⁶⁴², its weigh would be minor compared to ability and integrity 'So that really is about integrity and ability, I think. Benevolence to some extent'¹⁶⁴³ Or in another respondent words, it would be the less relevant determinant 'the least important [determinant in the central route] I would say perceived benevolence'¹⁶⁴⁴

Finally, regarding the central route, there was a view that wasn't able to discriminate about the determinants level of influence 'In terms of building trust... I am not sure if any stand out'¹⁶⁴⁵

Habitual route

In terms of the habitual route, a respondent's view was that it does not come into play very often 'In a very small number of instances I do think the habitual [route] really comes to play, because there are a lot of acquaintances in the military'¹⁶⁴⁶ Similarly, it was another interviewee's opinion that social bonds and personal identification wouldn't play a big part and that this route viability would be reliant on the members of the team's characteristics 'The habitual piece... it could [influence], it just depends on the team, I don't think social bonds and personal identification is huge.'¹⁶⁴⁷

Relation between the routes

From the outset, a CPG member's view was that all of the determinants are applicable in the CPG context 'I can see all of these [interpersonal trust determinants]... I think they are all perfectly applicable.'¹⁶⁴⁸ A similar view was expressed by another respondent in a more elaborated answer 'They all [interpersonal trust determinants in the CPG context] apply in this context, they all do to a lesser or greater extent... From the peripheral ones there to the once you've met and establish relationships with others... I would say it [if CPGs tend to get to the habitual route] varies with personalities; it varies with the level of interaction that is needed across CPGs'¹⁶⁴⁹ Furthermore, interaction was deemed to be fundamental to achieve interpersonal trust in the CPG context 'there are many factors and most of those that are the intellectual piece apply, but I think the most important piece is the social and interaction of equals that has happened at different levels'¹⁶⁵⁰

4.2.3.4 Cluster 4. Existence or non-existence of issues, regarding interpersonal trust

Differing views were expressed regarding issues in the CPG. On the one hand, a member argued the inexistence of issues 'There have been no issues, no problems with trust'¹⁶⁵¹ Conversely, another interviewee highlighted issues such as single services influence, financial aspects, and different priorities, as part of normality in the broad organisational setting 'All the other examples [single service influence; management of information; financial aspects; difference in priorities: S&T, Support, services] are, I think, normal, normal business to some extent.'¹⁶⁵²

The notion of trust fragility is depicted by a respondent, 'You have to retain trust... it takes a lifetime to build a good reputation and one minute to lose it,'¹⁶⁵³

Single service agendas and different priorities between organisational areas

Single service agendas are perceived as an issue affecting interpersonal trust between CPG members. In a respondent's words, 'All those factors

[interpersonal trust determinants] play to that.... to the perspective brought by the different services¹⁶⁵⁴ Similarly, and related, different priorities between organisational areas would impact CPG activity.

From the outset, a CPG member regarded the existence of single service agendas as an issue 'I think the single service influence is a great one [issue].'¹⁶⁵⁵ Furthermore, single service agendas were mentioned as inherent to any joint environment 'If it is a joint project, there will always be single service influence. And even if you are in a joint job, I think, we always end up wearing our own uniform.'¹⁶⁵⁶ Although, in another respondent's view, this is not always clearly evident 'In joint areas... Where people are not playing in a truly joint fashion... They are, or you believe they are, operating to another authority'¹⁶⁵⁷ In terms of CPG activity, it is acknowledged as an influential element distorting occasionally discussions 'It's very, very interesting to see that occasionally you get discussions, that are clearly being driven from the xxx [CPG's capability area service] agenda, rather than focusing on the activity that you are there to manage'¹⁶⁵⁸

In terms of different priorities between organisational areas, in the view of a respondent, it encompasses more than the services influence 'Different priorities will always be the case, especially when you are coming across such a broad spectrum of the business.'¹⁶⁵⁹ This idea is elaborated by another respondent who highlights some organisational areas which would represent different priorities 'Each of these three areas... [DE&S, support; DSTL, research; Services, the FLCs], would have different priorities, would have different pressures, would have different agendas.'¹⁶⁶⁰ In addition, in another respondent's view, different priorities can emerge from individual perceptions 'Different priorities absolutely, one member's priority might be to have a new gun, whereas someone else's priority is to have a new pump.'¹⁶⁶¹

The issue addressing different priorities between different organisational areas was further elaborated by a CPG member. In one interviewee's view, it is important to understand the initial standpoint of other members 'Within the CPG you have to understand the positions, the starting position of each member of the CPG.'¹⁶⁶² In this regard, in the words of a CPG member, it is necessary to identify people with different perspectives 'Identify who are people who think the same way as you and you actually need to focus on the ones that actually don't.'¹⁶⁶³ Afterwards, in the respondent's view, what appears to be relevant is what can be done to make other people converge to the individual's particular position. Consequently, the openness of the CPG members is salient to allow this convergent effort 'What you do to ... alter the way they are thinking, the process that they are going through ... So, I think, the main thing is right up front, I want to know what the people think about.'¹⁶⁶⁴ In the end, it appears as fundamental to present the different positions in a straightforward manner 'So, I think being open, and say right, this is how we want to do it.'¹⁶⁶⁵ Furthermore, in another respondent's view, what is perceived as a factor weakening the effectiveness of CPG activity is lacking the openness mentioned 'Somebody coming, appearing to support it and actually trying to undermine i.e. dig a hole

under it because they have something, some other project that they consider to be more important.¹⁶⁶⁶

Finally, in another CPG member's view, what is important would be to overcome organisational rivalries, and to foster trust is 'To understand what is actually required, what is policy compliant. All have got to understand and follow the strategic position.'¹⁶⁶⁷

Withholding information

Some respondents perceived withholding information as an issue. In one respondent view 'Information withholding is, I am not saying any real aspect in a CPG. But it can be one of the single most damaging things.'¹⁶⁶⁸ Similarly, another respondent qualifies it as a main issue 'The primary one is definitely people who withhold information.'¹⁶⁶⁹

In practical terms, withholding information is understood, in an interviewee's view as 'The degree to which people are open... when information is declared late, and people aren't properly consulted.'¹⁶⁷⁰ It could cover information of different nature 'Behaviours where people squirrel [to store or hide] money away, put the money away or don't declare things.'¹⁶⁷¹ Moreover, it is perceived, in another respondent's view, as a manner to protect an activity or resource to be withdrawn 'I think the bad behaviour is almost encouraged by the system. And if you can avoid revealing your full hand, and avoid revealing the full extent of your project, then it may help protect it.'¹⁶⁷² Furthermore, an example is given by the DE&S representative, being defensive against the R&P people 'There is a concern... when you're worried about what the centre could do to you, so you tend to keep your information quite close hold.'¹⁶⁷³

Financial resources

Although tangentially, financial resources was signalled by a respondent as an issue regarding interpersonal trust 'I think finance, resources. Because there is little money or no money.'¹⁶⁷⁴

Rotation

An additional issue was depicted by one interviewee about the high rate of rotation in posts for military officers 'They have not been the same five heads for two years, there has been rotation through.'¹⁶⁷⁵ This situation of members rotation is signalled as an element diminishing performance of the CPGs 'The continuity thing... you often find that if you are only meeting quarterly, you might find that every second or third meeting somebody has changed... And I think that has quite a big impact on the performance the CPG could ever have.'¹⁶⁷⁶

Training

Another aspect qualified as an issue by a respondent was the 'introduction' process of new members to capability planning activity 'There has been some practical issues to do with people learning how the group is formed and what is required of it'¹⁶⁷⁷. In particular, for people new to capability planning, they go

through a learning process initially 'For a new person coming in that hasn't been involved in it before there is a learning route to go through.'¹⁶⁷⁸

4.2.3.5 Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust.

The existence of exogenous factors having some bearing on interpersonal trust in the CPG is recognised and also pointed out as a source of influential elements 'The biggest pressures of the CPG are always going to be external.'¹⁶⁷⁹ Furthermore, in another interviewee's view, although sometimes CPG members could have the intention to develop the best solution 'I think, the CPGs tend to be can-do organisations, they want to come to the right answer'¹⁶⁸⁰; it is not always possible 'Just because it's the right thing to do, doesn't mean that we all succeed in doing it.'¹⁶⁸¹

Regarding a classification of this sort of risks, in a CPG member's perspective, different perspectives could be assumed when categorising influential factors 'I suppose you can categorise that in a number of ways'¹⁶⁸². Furthermore, according to another respondent, 'external pressures' could originate in financial aspects as well as the influence of the services 'The problems come when ... that is ... those are those external pressures which are inevitably financial. Sometimes they will be, ah, doctrinal... [sort of single service pressure]... but usually financial, in this day-and-age.'¹⁶⁸³

Respondents covered diverse aspects trying to sketch risks. One respondent mentioned lack of integrity 'There are risks. People not actually doing what they have said they'll do.'¹⁶⁸⁴ In addition, another CPG member stated that occasionally members do not disclose their opinions 'I have seen an occasion where is being quite clear that there have been a lack of enthusiasm for one particular course of action and people haven't been open about it.'¹⁶⁸⁵

Regarding the motivation for these kinds of behaviours, different reasons are proposed. Firstly, individuals could have other interests in place 'Behaviours could undermine the trust ... People sometimes, although we haven't seen it in my experience, have a different agenda.'¹⁶⁸⁶ Otherwise, they could just be being told to pursue a particular position 'There is then an authority level that might tell me I have to go and do it'¹⁶⁸⁷ Alternatively, in another respondent's view, individuals could be looking for some sort of sponsorship from a given authority level 'Where I've seen it works best... they confer through their power of patronage [support of a patron], they confer an awful lot in terms of I want to work for that person... the payback is in some sense, is that, that person is going to be in a position of authority. I enjoy the respect I get or it's going payback...'¹⁶⁸⁸ However, a respondent argued that behaviours where individuals are not being open, or are pursuing other interest, this attitude can have negative consequences for them, if it come to the light 'If your underhand behaviour comes to general attention. You'll be ostracised, you won't be part of the group anymore or you won't be a trusted part of the group.'¹⁶⁸⁹

Possible promotion

Individual interest potentially could drive behaviours undermining capability planning activity. In the words of a military member of the CPG, the Confidential Report System was regarded as very important to military personnel 'I suppose in a military context the most important thing... is your line manager, your reporting chain... [you need] write them up positive [report]... the civil service is their bonus, the military it's their promotion.'¹⁶⁹⁰ In another respondent's view, this element could drive controversial behaviour in the CPG 'You may come up with an annual appraisal that say you did really very well because you followed what he wanted you to do. But, it was entirely in opposite direction to where the group wanted to go.'¹⁶⁹¹ Furthermore, in another respondent's opinion, it would be a secondary consideration 'I don't think... behaviour in a CPG is affected by how their career might be affected. I think most people would act in a way to maximise their contribution and safeguard the interest of the organisation they are representing. I mean, I suppose as a secondary consideration, yes you do... But I wouldn't say that is primary in most people's minds.'¹⁶⁹²

Conversely, other views were presented in the sense that CPG activity would represent a minor part influencing individual's overall performance evaluation 'Possible promotion... my performance of the CPG is not going to make an awful lot of difference, it will be all part of my overall collective performance.'¹⁶⁹³ In the perspective of this respondent, this risk would play a part at higher levels, above CPG 'Possible promotion one, probably not, not at this level, I think maybe at higher levels. But, this is such a small part of our wider piece, that I would say no.'¹⁶⁹⁴ This view, neglecting the influence of personal interest, was shared by a civilian member of the CPG 'You are going to have some members of the MoD or CPGs who are benevolent in a way that they are not in their own self-promotion, they are in for the ... for making defence the best that it can be'¹⁶⁹⁵

Financial situation

The stringent financial situation faced by the UK's MOD through the period when this research was prepared and conducted is reflected in an interviewee words 'The financial situation drives everything; I mean everything we do here is driven by the financial situation.'¹⁶⁹⁶ As an example, of the acute measures taken in defence, the User representative mentions harsh reduction in financial resources 'The problems come when you are putting towards a solution and then from the side you get [that] your budget is going to be cut by 50%'¹⁶⁹⁷

Difficulty to operationalise priorities in terms of capabilities

The existence of different priorities influencing individual's behaviour is acknowledged 'There are different priorities, and people would have a different approach to state in their case.'¹⁶⁹⁸ From the outset one respondent argues that they come to the CPG from their own organisational structures 'We all operate within a framework in our own respective organisations... we might want to do things and we might know doing certain things that would be best for the overall enterprise in terms of the CPG.'¹⁶⁹⁹ In this regard, the interviewee argues that

the CPG member has to consider what is acceptable and possible for his organisation of origin 'We have got to be pretty clear about what our organisation will sign up to, and also what, we also have to be very honest about what organisations are capable of.'¹⁷⁰⁰ In the interviewee's words this has to do with representing a realistic more than aspirational position in the CPG 'We don't sign up for things that we know we would like to go to do and then find that our organisation won't back up or can't deliver.'¹⁷⁰¹ This realistic approach would involve the individual's capabilities as well 'I think, people come to this forum with a budget and time and effort they can put into it. They all have got day-job to do... one of the big risks I think is your organisational capacity, your personal capacity of delivering things you are saying you are going to. There is a limit to what people can really follow through.'¹⁷⁰² Otherwise, in the member's view, the incentive to consolidate what has been committed can weaken 'There is a danger if you sign up to deliver something which is really quite difficult, then the incentives for you doing a good job are weak.'¹⁷⁰³

Another facet mentioned is the availability of the resource time to perform CPG related duties 'We do seem to be in an organisation where everybody is very, very busy. Specially at that very senior level, and therefore, whether is because they don't see it as important, or less important than what they are doing, or whatever the reason is, is very rare you get all five OF5s sitting around the table.'¹⁷⁰⁴ In the respondent's view, this introduce further difficulties to decisions made at CPG meetings, increased by the low periodicity of the CPG meetings 'It actually happens to make it a lot harder, because if you make a decision that then they don't like, they will come back in later and cause a lot of grief, pain.'¹⁷⁰⁵

Sub-organisational (single service) agendas

Although already mentioned amongst issues regarding interpersonal trust in the CPG, single service agendas and particular specialised perspectives, in a respondent's view, are common 'We do see that quite a lot, you get a particular discipline within the single service, who wants to see the focus being driven down their way.'¹⁷⁰⁶ Issues in this respect were elaborated around two ideas. Firstly, in a interviewee's view, it is a natural tendency to watch over individual's own service 'the natural instinct of people to look after their own service first is another of the problems with the way the CPG construct is now, where the projects are scattered across'¹⁷⁰⁷ Furthermore, it would go down to focusing on systems associated with the individual's service 'There is a natural tendency if you have an officer [from one service], for instance, doing work on a series of systems, he will concentrate on the ones [systems] that support the xxx [his service]'.¹⁷⁰⁸ Secondly, in another members' view, there are different issues and priorities which are reflected in the CPG activity 'There are politics, agendas, single service issues and priorities that need to be addressed, and that play into the debate.'¹⁷⁰⁹ In this regard, individuals also would be influenced, particularly by single service agendas if they were working in joint environments 'For other members who really have, you know, an agenda to, to pedal, then yes, and if it is joint then your single service agenda would apply.'¹⁷¹⁰

Sharing and exposing information

Also mentioned amongst issues regarding interpersonal trust in the CPG, an interviewee perceives sharing and exposing information as a risk related to the existence of different priorities between the CPG members 'Exposition as in revealing your hand, yeah different priorities absolutely. And different priorities will determine what, you know, what you expose, what you don't.'¹⁷¹¹

4.2.4 Capability Planning Group 4

4.2.4.1 Cluster 1. Perception about performance

Work in the CPG at present

Perceptions grouped as having a positive connotation regarding how work is performed presently in the CPG expressed views as to CPGs deemed to be a better working arrangement for capability planning, as a means to get organisational areas together, and as a construct enabling a longer term view in capability planning activity.

Firstly, one respondent view's is that the CPG's model is good, although with some shortcomings 'I think it's a good concept, in terms of model, yes, there are issues in terms of how well it works'¹⁷¹² Moreover, in the view of other two respondents the CPG construct is deemed to be better than the previous model employed, in how it encompass the relation between related projects 'Better than what we had when we were doing CMGs, ... how is that interaction with the vast number of projects that have a relationship to a capability.'¹⁷¹³ Another positive aspect mentioned is the focus on through life and in the concept of capability 'I think it is better... the emphasis on through life and in capability not just equipment is inherently a positive thing'¹⁷¹⁴

Secondly, according to the R&Ps representative's view, it is relevant that CPG allows the bringing together of different organisational areas in the MUC 'I think as a model it works well, it does get the five areas of defence to talk to each other [in the MUC], and that's really important.'¹⁷¹⁵ This latter view of bringing together the relevant stakeholders is shared by the Chair, who argues that as a result of the construct, an integrated and long term view is reached 'The programme boards, CPGs have been really helpful in kind of bringing together all the stakeholders producing a kind of cross-DLoDs preview, producing a longer term view'¹⁷¹⁶ Furthermore, the Chair argued that the CPG construct has worked better than any other model tried in the past 'I haven't seen any of the models that work as well as the one we've got at the moment.'¹⁷¹⁷

Subsequently, a number of perspectives deemed to have a neutral connotation were gathered. Those views had to do with 'blurry' boundaries in capability planning, a 'transitional' state of TLM and capability planning, the need for the CPG members to have a TLM contextual awareness or process knowledge at the outset, and the existence of a tendency for greater interaction between certain members of the MUC.

Regarding the existence of 'blurry' aspects in CPG activity, in broad terms it was argued that the different capability areas are managed differently 'Different HoCs do things in completely different ways'¹⁷¹⁸ In another respondent's view, there would be some boundaries which are not completely clear 'Perception is that performance is good, but the boundary is still being defined.'¹⁷¹⁹ This idea of blurriness is further elaborated by two respondents 'There is a blurring of the boundaries between the CPG and the Programme Board'¹⁷²⁰ In addition, another respondent who had the perspective of sitting a number of CPGs, CMGs and Programme Boards endorses the latter perception 'I don't see a lot of difference between CPGs, CMGs and Program Boards... From my perspective, I mean, sitting them all; they all talk about everything.'¹⁷²¹ Moreover, some examples were provided by the interviewee 'The issues are generally the same, they are all about money, they are about policy, they are about capability delivery. And, there is a little differentiation sometimes, between planning and delivery.'¹⁷²²

Although it is recognised that there have been significant advances in capability planning activity there would still be space for more improvements 'By no means we have completely got that.'¹⁷²³, perception is that the model is still developing 'There certainly have been change because TLM itself is still maturing.'¹⁷²⁴, and that there is a transitional state to reach through life capability management 'we are trying to undergo this transition ... towards the management of capability through life'¹⁷²⁵ Furthermore, the Chair argued that there would be ample space for advance in collaboration and teamwork 'There is a long way to go in terms of the full extent of collaboration we need to achieve... getting everyone in the same team'¹⁷²⁶ One example provided by the DE&S representative was the impending implementation of IT facilities to enable a more interactive work 'Later this year, we are hopefully getting a sort of team site functionality. We've got limited version of that right now, where we are trying to put the key documents, and some of the meeting minutes, and actions and so forth'¹⁷²⁷ Summarising, a respondent expressed that in his view although performance is fine, guidance is still developing 'The performance is still good, and is all sort of keen and enthusiastic, and they are very knowledgeable and experienced. It is jut the case of the understanding of the new role in the CPG probably hasn't been firmly established yet, in terms of reference, continuously being updated as the understanding moves forward.'¹⁷²⁸

The existence of particular terminology and understanding of TLM process knowledge was deemed to be necessary in capability planning activity 'TLM talks in a different language, and if you arrive in a job, and you are not familiar with TLM... and I've seen it, people do not understand'¹⁷²⁹ This view was consistent with another member who recognised having had this sort of inconvenience 'I have got a lot of issues with vocabulary and taxonomy.'¹⁷³⁰

In general, capability planning activity would involve the same people meeting under different constructs to undertake work about the different parts of capability planning 'It is the same people, sat at the same table, talking about the same xxx [capability area] problem.'¹⁷³¹ Furthermore, in the respondent's view, there would be a tendency to form subgroups; capability sponsor with

DE&S, and R&Ps with the FLCs 'The other four elements of the MUC split into two areas... Cap areas talk a lot with DE&S... the RPs, talk to the FLCs.'¹⁷³² In this respect, S&T would be sidelined 'I don't think I don't have much to do with DSTL and research.'¹⁷³³

Views deemed to have a negative connotation were expressed, regarding a poor longer term perspective, and the necessity to build trust with new members coming to the CPG which influences the CPG performance. Firstly, in a respondent's view, behaviours expected with the introduction of TLM have not been achieved yet 'What we kind of seen them do is bring forward the interaction that they had with projects, at the project level, rather than necessarily stay back and take that bigger picture view of capability planning or looking at least at the programmatic level'¹⁷³⁴ Though, this expression is contrary to what another member expressed under this headline. Secondly, performance would be affected because of the necessity of building interpersonal trust with new CPG members 'You still have then to go through the whole, the central route a la [in the manner of] determinants with the new individuals and the team. So, we suffer from dips in the performance as well'¹⁷³⁵

Face-to-face work

The perception of the advantage set by co-located activity to achieve better performance was mentioned by one respondent 'We find that the more time you can get face to face or, you know, travelling between here and London, actually helps improve performance.'¹⁷³⁶

Work organisation

From the outset, it was pointed out by the CPG Chair that, in his view, the size and organisational complexity of the MOD sets a challenging scenario to perform capability planning activity 'With the MOD being such a sort of massive [organisation]... is very hard to overcome the stovepiping and silos'¹⁷³⁷

A positive aspect was mentioned when explaining the existence of a weekly newsletter in the xxx [capability area community] 'It does help drive a bit of coherence, more than anything it reminds people what certain areas of the community are doing, and reminds them to pick up the phone to check with that point of contact'¹⁷³⁸

Another characteristic of the CPG's capability area has to do with what would be major reliance on interdependencies between projects and across domains. Firstly, the Chair mentioned the existence of transversal issues 'The xxx [capability area] has a lot of cross-cutting issues and DLoDs issues.'¹⁷³⁹ This phenomenon is depicted by another CPG member who points out differences with other domains 'Differences between our domain and other domains, we are what they call sort of interrelated peer elements to our program, we have lots of small projects.'¹⁷⁴⁰ Moreover, the existence of these interdependencies would be a source of complexity 'People is (sic) responsible for managing series of projects and the relationship between projects and capabilities is complex and multilevel.'¹⁷⁴¹ Furthermore, this situation subsequently would impact activity across the different domains 'On the whole, we are talking about lots of distinct

pieces of kit trying then to connect by the network and the intelligence cycle. So, we have lots of stakeholders, lots of projects¹⁷⁴²

Negative perceptions were expressed about what is perceived as an 'ad-hoc' approach to undertake capability planning activity, the duration of the cycle to raise options for savings or enhancements, and the impact that the preparation of the Strategic Defence and Security Review had on CPG activity. One point raised by a respondent was related to how CPG activity is led in different manners by the HoCs 'The eleven HoCs, they all have different ideas, different behaviours, different approaches.'¹⁷⁴³ In this regard, an additional difficulty would be posed by a disconnect between a capability perspective and a programmatic perspective 'They've got the same basic problem... we mix capability and programme, because money is attached to projects'¹⁷⁴⁴ In relation to timings, because of the duration of the annual management cycle in the MOD, options can be raised once a year 'So it's going to be eleven months before we can put another option in to achieve that goal.'¹⁷⁴⁵ Furthermore, TLM activity was temporarily stopped because of the preparation of the Strategic Defence and Security Review 'We haven't done TLM for eight or nine months properly, because of the Defence Review'¹⁷⁴⁶ Finally, a last negative perception gathered revolved around the lack of tools to underpin working in groups 'There are lots of ways of do a lot of collaborative tools for helping groups work together. And for them maintaining a common view, building a shared awareness and all that. We don't use that.'¹⁷⁴⁷

4.2.4.2 Cluster 2. Nature of the interpersonal relationships

Relationships

Cluster 2 gathered evidence about the nature of interpersonal relationships. In this regard, the Chair depicted capability planning activity as requiring an environment for open, but guarded discussion 'We often need to have very frank debate with all the different stakeholders and to be assured that ideas or proposals won't be kind of widely disseminated'¹⁷⁴⁸ In the interviewee's opinion, trust would be an element enabling discussion 'so the trust that you can expose a situational problem or a potential solution to the problem'¹⁷⁴⁹

From the outset, a member recognised that relationships have improved, when speaking about the transition from managing projects to managing capability, i.e. the introduction of TLM 'I have seen a deepening of the links between ourselves and the areas we work with'¹⁷⁵⁰ Furthermore, in another respondent's view, shared understanding would be the main issue regarding capability planning, 'Although a close relation is important, but about shared understanding is for me the main issue to overcome'¹⁷⁵¹ In this regard, meeting regularly would be necessary to understand other members perspectives 'You need to have people together regularly. Otherwise, you don't understand the roles and responsibilities and limitations of what the other areas can do.'¹⁷⁵² If getting together is not possible, people would tend to fragment and to work stovepiped 'The system works well if you have meetings regularly, and you can meet, and discuss, and understand. If you don't have it regularly, for whatever reason... the system sort of breaks down and you end up just having bilateral

relationships with different organisations.¹⁷⁵³ In any case, according to another member, it must be noted that CPG members interact in other spaces regularly 'We don't just interact in the CPG space, we also interact in quite a lot of others often.'¹⁷⁵⁴

Another aspect, mentioned by the User representative, was the need for physical interaction to build strong relationships. In his view there would be a correlation between strong relationship and getting together often 'I think the relationships that are strongest are with those people that I see the most.'¹⁷⁵⁵ Secondly, in the respondent's opinion being co-located would facilitate building relationships 'We could do a lot better if we were co-located, for sure, in terms of building relationships.'¹⁷⁵⁶

In relation to the degree of development achieved by the CPG, based on the Tuckman & Jensen model of groups stages of development as reference (See Chapter 2, 2.2.3.4. 'Lifecycle'), a respondent argued that the CPG would be in the 'norming' stage, but far from what would be in his perception an acceptable performance 'We probably passed storming, we are into norming now, with people have got used the idea of what TLM is, what the CPG does, but we're nowhere near getting at to the required performance standard.'¹⁷⁵⁷ Furthermore, the interviewee mentioned the existence of 'pressure points' through the year where behaviours would be tested 'There are key pressure points throughout the year... And people's behaviour under stress obviously can be different to their normal behaviour.'¹⁷⁵⁸

Relationships virtual

In relation to aspects mentioned because of the virtual nature of the interpersonal relationships, the respondents elaborated about some constraints imposed by virtual interaction, the potential of IT functionalities, and difficulties related to limitations in connectivity.

The CPG User representative referred to the need for co-location to keep alignment regarding understanding and activity 'I think, not being co-located... is a danger of people diverging on what they are doing, just because they don't come together often enough to keep aligned their thinking and their activity.'¹⁷⁵⁹ Moreover, when explaining that he meet some of the members more often than others, he reflected about having stronger relationships with some of them because of that interaction 'So, the way we operate virtually is fine, but is not a substitute for face-to-face.'¹⁷⁶⁰ In addition, another respondent elaborated about one of the effects of lack of co-location as facilitating to establish coherence at suborganisational level (MUC isolated members), instead of coherence across defence 'Is very easy to lapse [to deviate] into asking the question of people around you than it is to drive coherence amongst the virtual community of the CPG. So, you may try coherence amongst your corporate area [i.e. DE&S, support activity], without driving coherence amongst the MUC'¹⁷⁶¹

Regarding the scope of the potential of IT functionalities, one respondent provides an example of cues that are lost when pursuing not-located activity to deal with difficult issues 'I just question whether if issues are around shared

understanding, it is really difficult to convey that over a video link and pick up the... body languages and so it's just that you can't tackle so challenging issues by remote links.¹⁷⁶² Furthermore, another respondent argued an advantage if they would have better technologies to address CPG activity 'It would be very useful if we could have, you know, more collaborative working environments, to move things forward quickly.'¹⁷⁶³

Finally, in a respondent's opinion, lack of IT connectivity would pose a limitation to develop interpersonal relationships 'They are made more difficult than they need to be by the lack of IT interconnectivity'¹⁷⁶⁴ In the respondent's view, limitations to connectivity between CPG members would slow down CPG activity 'The connectivity between us to share work, and develop work together, is quite limited... restricted only to the sort of exchanging information by email and then picking up the phone to work in a virtual way. So, it elongates the task generation, production, activity'¹⁷⁶⁵

Constraints

When explaining constraints to interpersonal relationships, a respondent expressed his perception about the existence of a base of trust that would be different between military members pertaining to one service 'I think the relationships between all these different types of people is very different, because of the nature of the circle of trust that exists. I think the circle of trust within your own service is probably the most strong.'¹⁷⁶⁶ This base, would be weaker when involving members coming from different services 'When you are brought into a joint environment, then the trust is... weakens slightly for different reasons.'¹⁷⁶⁷

Another aspects raised were limitations posed by the highly classified nature of some of the issues dealt with in the xxx [capability area] 'It becomes a bit harder for us when we have to work in the higher classifications... Because not everybody has connectivity to the sort of secret and above classification [security, higher classified access]'¹⁷⁶⁸; together with connectivity restrictions 'We are not on DII [Defence Information Infrastructure]. So, the only time that I can access the virtual meeting site is when I am somewhere with a DII terminal... that limits the ability to interact in that space properly.'¹⁷⁶⁹

4.2.4.3 Cluster 3. Interpersonal trust determinants, as perceived by individuals

Two of the interviewees manifested that in their view all the determinants pointed out in the introductory letter to the sources would apply in the CPG context 'I recognise all of those in some way or another'¹⁷⁷⁰ One of them, reflecting upon the interview considered what would be the limit of the central route 'You get certainly determinants from all of those areas, peripheral, central and habitual... what we struggle with potentially is the boundary of habitual.'¹⁷⁷¹

Peripheral route

From the outset, the use of peripheral cues was recognised by a respondent 'The peripheral route is certainly used... Because you keep stumbling across

the same people as you move along your career.’¹⁷⁷² Furthermore, when talking about the peripheral route to trust, two ideas were expressed: the different manners in which the peripheral route could be used, and the different relevance of the determinants according to particular respondents.

In a military respondent’s view, not all the peripheral determinants would apply to every relationship ‘On the left hand side [peripheral route], I recognise all of those, but you probably would not find all of those applying to one particular relationship’¹⁷⁷³ Furthermore, this perception is also endorsed by a civilian CPG member, who argues that there would be different interactions depending on the consideration of short versus long-term issues, and that in any of those cases the peripheral route would operate differently ‘That means your peripheral routes are quite different between the different parts of the stakeholders base. And if you are only dealing with often short-term issues, you are actually dealing with one that usually run between the DE&S bit and either CAP or joint user or finance. The S&T bit is often the longer term part...’¹⁷⁷⁴ In the latter interviewee’s experience, being a S&T representative would represent less chance to build up interpersonal relationships on the CPG access. In addition, although the S&T perspective would be more relevant when addressing longer term issues, the peripheral cues would be more associated with role and category type information. This latter view was also shared by the DE&S representative, also a civilian member of the CPG ‘Certainly role and category feature quite heavily.’¹⁷⁷⁵

Expressions about the particular determinants in the peripheral route, reflected a perception of a different relative relevance that CPG members would assign to the different determinants. Firstly, in the view of one respondent, role, category, and history would stand out over third party information or disposition ‘Third party information, what somebody else says about him, is not really relevant for me. And disposition, I am not sure about, but certainly role, category and history’¹⁷⁷⁶ Secondly, for another interviewee, rule and role, and particularly history amongst military members, would be influential peripheral determinants ‘I think that rule and role and history at the military... I think of examples of all of those.’¹⁷⁷⁷ Thirdly, in the DE&S representative’s opinion, role, category and third party information would be more relevant than disposition and rule ‘... third party information is always useful. Disposition and rule... no doubt they are determinants but perhaps don’t feature as heavily as the others...’¹⁷⁷⁸

Central route

The developmental view of the central route was pointed out by a respondent, who argued that a year would be required to complete one cycle of activity which would underpin the assessment of the interaction in the CPG context allowing the formation of trust ‘Actually, it’s going to take at least a year, because that’s the period of time that it takes to conclude similar activities over a course of time, to build trust with any new individual. So that central route takes a year at least’¹⁷⁷⁹ Moreover, the central route would be, in an interviewee’s perception, influencing more than the other two routes to form trust ‘I think is more persistent, [the central route than the other two routes],

more common across the field.¹⁷⁸⁰ Furthermore, a respondent argued that CPG members showing ability and integrity are necessary for the CPG to work well 'CPGs that work well have knowledgeable and credible, experienced people around the table.'¹⁷⁸¹

Repeatedly, ability was mentioned either as an important determinant; 'Skills and competences [ability] a really big part... they are capable of engaging with what you are asking them to do'¹⁷⁸²; or as the most influential determinant in the central route 'The knowledge and experience [ability] of the people around the table... Is the main thing really'¹⁷⁸³ Moreover, the perception of ability would be complemented, in a respondent's view, by the continuity represented by civil servants, which would allow a better balance 'The central route, perceived ability, almost helped by the fact that you do have some civil servants as well. You need that balance, because often they provide some continuity.'¹⁷⁸⁴

In relation to how the perception of ability would influence trust formation, it would increase through time 'Probably perceived ability [after some interaction will be more relevant]'¹⁷⁸⁵ In addition, ability's linkage with precedent peripheral cues is mentioned by another respondent, 'Perceived ability, as you move those [peripheral determinants] forward'¹⁷⁸⁶

Integrity was mentioned as the second most relevant determinant in the central route. In a respondent's view, integrity would be necessary to underpin the perception of trustworthiness based on the perception that the trustee will do what he says he will do 'It doesn't matter how much skill they have or what they behaviours and attitudes are, if you can't have the integrity, if you can't have the knowledge that when they are saying that they are going, that's what they are going to do'¹⁷⁸⁷ In addition, integrity was also related to the trustee adhering to only one declared position about a given topic or issue 'And if you say that's what they say up [wards], down [wards] in to peers as well, perhaps integrity is the important one'¹⁷⁸⁸ Furthermore, in a third respondent's view, integrity relevance has increased as a result of the influence of unforeseen financial constraints affecting capability planning activity 'And integrity, because the pressures on defence at the moment, have brought out the worst of some of the behaviours between the single services'¹⁷⁸⁹

Benevolence was mentioned by the R&P representative, as the third determinant in terms of influence in the central route 'That middle one [benevolence] would be the third important'¹⁷⁹⁰ This view was shared by the User representative 'The benevolence bit, fine, it would be a nicety but not, not as important as been competent [ability] and have integrity...'¹⁷⁹¹

Regarding the relative weight of the determinants in the central route, in one respondent's view, ability would be more influential, followed by integrity, but neglecting benevolence relevance 'More relevant, ... I would say the ability and the integrity but not the middle one [benevolence]... I certainly think that their ability is the key factor'¹⁷⁹² Similarly, another respondent endorses the relevance of ability and integrity, adding benevolence as less relevant and flowing from the other two determinants 'In the central route, ability and integrity being the two main requirements, in my view. Benevolence, not essential, but

probably flows from the other two.¹⁷⁹³ This view is consistent with two respondents 'Certainly integrity and ability, we picked up on very strongly.'¹⁷⁹⁴; or in a more elaborated answer 'Perceived ability, if clearly they can do the job well and people would warm to them. Integrity is something that is invaluable anywhere. I think those would be the two strongest in the middle [central route].'¹⁷⁹⁵ However, benevolence would have some influence in another respondent's opinion 'Only over time will they build the complete trust... So, you get an understanding, of... the perceived benevolence of individuals over time, and their integrity'¹⁷⁹⁶

Habitual route

Although respondents did not elaborate about the habitual route or its determinants, all of the determinants were deemed as applying in the CPG context 'There is none [determinant] that don't apply [in the habitual route]'¹⁷⁹⁷ In particular, social bonds and personal identification were highlighted by another respondent 'I think social bonds, personal identification are strong determinants'¹⁷⁹⁸

Relation between the routes

Perceptions about the interconnection and progression through the routes to form interpersonal trust pointed out a sequential relation between the peripheral and the central route 'Yes, I think that definitely does [peripheral route informs central route]'¹⁷⁹⁹ Moreover, interaction is needed, in one respondent's view, to move on to the habitual route 'If you don't have the interaction, you don't get to the habitual route'¹⁸⁰⁰ Although, according to a respondent who sits in a number of CPGs, in the case of this CPG, reduced interaction would be associated with not reaching the habitual route 'I haven't seen it [CPGs move on from the central route to the habitual route to build interpersonal trust], no. We don't meet so often'¹⁸⁰¹ Conversely, for another respondent who sits only in this CPG, the habitual route would be operating between the members 'You get a blurring between central and habitual determinants as you move forward because when a small community, we do try to drive those social bonds a bit earlier on.'¹⁸⁰²

4.2.4.4 Cluster 4. Existence or non-existence of issues, regarding interpersonal trust

Single service agendas and different priorities between organisational areas

In accord with what is mentioned in the academic literature reviewed as tensions in cross-functional work, perceptions of CPG members covered the existence of influences from the single services as well as from other organisational areas integrated in the MUC. In an interviewee's words 'Single service influence, and probably the different priorities already... Those are two problems that I see hugely influencing in my area.'¹⁸⁰³ Another respondent agreed and argued that these influences would impact in a different manner according to the relevance of the decision being made 'So, is an element of working on sharing information and an element of behaviour under stress that

we can probably work on... I think is inevitable [influence of the single services; differences from different perspectives: research, FLCs, support function; withholding of information between different members]. I am sure elements of that do occur, tends not to be too bad when you get into bigger decisions.¹⁸⁰⁴ Although, in a CPG member's view, interpersonal trust would facilitate to mitigate these influences 'You work around those, by building interpersonal trust though.'¹⁸⁰⁵

The influence of the single services could come from the hierarchy in a particular service, as explained by one respondent 'This is our vital ground. These are the platforms that we want to keep. These are things that we don't... we will not lose. And then that comes from your single service chief and you would be an advocate for those types of capabilities.'¹⁸⁰⁶ These interests would not be necessarily aligned with defence overall benefit in terms of capability planning 'When you sat in a planning group, it might be quite clear that for defence the best capability would be that. Whereas my chain of command says is important that we retain that [other].'¹⁸⁰⁷ In addition, single service influence could be exerted through dominance in the staff base of one capability area by one of the services 'You may have a service dominated staff base on the London end, you know, what the boss says I will do, without perhaps stepping back and thinking actually in the wider context is this the right thing to do.'¹⁸⁰⁸ Moreover, exogenous factors, playing in the single services, would influence the consideration of capability activity by the different CPG members 'I know he [another CPG member, from a different service] looks at the capabilities that he is delivering very different than I do. Because of the issues of the service that he belongs to.'¹⁸⁰⁹

Further, the existence of different priorities is explained from two perspectives, one from a programmes versus capability planning areas standpoint, and another considering the different organisational areas concurring to the CPG. Firstly, a respondent argued that decisions in a capability planning area could neglect the impact on another capability planning area 'What we can see is not necessarily divisiveness [dissension or discord] over services, service lines. But actually, by the boundaries of the programmes themselves. People would take a decision in the context of one program area or one CPG, and they would, sort of ignore the assumptions, risks and issues that may have an impact on another CPG.'¹⁸¹⁰

Secondly, the different priorities are depicted, by a respondent, pointing out three organisational areas, 'We are often, I guess, we are driven by different priorities... there is a perception, in my mind that we don't necessarily have the same end state goal, between the three elements [CAP Sponsor, DE&S and FLC] of the community.'¹⁸¹¹ In another respondent's opinion, this situation of differing priorities would drive to inefficiencies, for example not covering all the DLoDs and, consequently providing a meaningless capability 'I think the [CAP] sponsor and the delivery organisation [DE&S], the user [FLC], all have different motivations, they all have different priorities, and I guess that sometimes leads to inefficiencies in the working together'¹⁸¹² This latter opinion about inefficiencies is shared by a respondent who work on a number of capability

planning areas 'I think there is a danger of inefficiency, which I think I do see across, I look at five or six different capabilities'¹⁸¹³ In this regard, another respondent provide an example 'There you will see behaviour where one group takes a decision without fully understanding the impact it has on the other.'¹⁸¹⁴ Furthermore, some examples were provided 'The sponsor is worried about cost often... DE&S are very equipment focused'¹⁸¹⁵

Withholding information

Regarding the flow of information, in one respondent's perspective, there would be a tendency to share information bilaterally 'The information flows... very much one to one... So, often the large group doesn't see any of this, and you get surprised by things.'¹⁸¹⁶ That would have an impact, as in another respondent's view, it is necessary to 'manage' the 'right' information across the different capability areas '... Unless you've got the right management information, unless the eleven different capability areas are working to the same kind of baseline'¹⁸¹⁷ That management information required would be provided by the Project Support Function (PSF) 'The VT works well to bring the wider team together, but you need a core there, who are responsible for that capability, and at the moment that is PSF in DE&S.'¹⁸¹⁸ However, from another CPG member's perspective, the flow of information would be compromised because of stretched resources 'The resources are stretched very thinly now over many different capability areas. And that affects the quality of the planning, the quality of the management information that is available.'¹⁸¹⁹

From another interviewee's perspective, there would be deficiencies in information management that make difficult to find relevant data 'Some of our basic processes of information management, where we put stuff or we do. And we then don't make it for us to find things and understand what happen.'¹⁸²⁰ Furthermore, in the interviewee's opinion, the constant struggle to obtain information plays against the formation of interpersonal trust 'You don't build trust you should because ... you are often fighting against the way the system is working to get the information.'¹⁸²¹

Military-civilian differences

A civilian member of the CPG depicts what would be in his opinion, a difference between civil servants and service personnel, which would encompass diverse aspects 'What you do get as I say is a difference between service personnel behaviour and crown servant behaviour in terms of trust, ability and, knowledge, etc'¹⁸²² Moreover, in the interviewee's opinion, there would be a different culture where civil servants would take a more integrated perspective about interdependencies in capability planning activity 'Crown servant's culture might, sort of say, you know, you've given me this task, but in the context of these other tasks that I am aware of, there is some conflict... whereas the military behaviour might be just task orientated.'¹⁸²³

Rotation

The rate of rotation of military members of the CPG is regarded as an issue in capability planning activity 'There is a factor in terms of people's knowledge and

continuity in post...¹⁸²⁴ Firstly, in a respondent's opinion, there can be impact on the momentum of CPG activity 'Military staff posts rotation. Once every two years, or something like that can break momentum on occasion unless you get the handover right'¹⁸²⁵ As a result of the dynamic of changing personnel, there would be a situation where different members are going through different stages of development of the group, using the Tuckman & Jensen model of groups stages of development as reference 'Team members keep changing, you've got different parts of the team taking the all sort of storming, norming, forming, forming-type view. It's a very odd mix of some people often storming and forming and the other part in the norming forming space of the group, so it's a bit odd because of that.'¹⁸²⁶ Furthermore, another member of the CPG agreed, and added that progress from one stage of development of the group to another stage would be slowed down because of rotation of people, 'Hindered by the fact that you have this change over of personnel.'¹⁸²⁷

In addition, the longer membership of civilians in the CPG, would encourage a different approach to risks because they would be more likely to stay in post when realising potential risks managed previously 'We might be there a little bit longer than they are. And the risk may return to haunt to us by the time we are still in post.'¹⁸²⁸

4.2.4.5 Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust.

Possible promotion

The central organisational dilemma revolves around the idea of reconciliation between individual's aspirations and needs, and organisational purposes. In the CPG context, an interviewee elaborated about this problem, mentioning that organisational purposes come not only from defence as a whole 'I think there are challenges between what is best for defence, and what is best for a service, and what is best for an individual.'¹⁸²⁹ Moreover, an example of single service influence is enunciated 'If you are arguing, just defying and being an advocate for a A [one service] or an B [a second service] xxx [capability area] capability, which might be the best one, but it means we lose an C [a third service, the one to which the respondent belongs] capability, which my Chief wants to keep, he would say who was involved in the planning of that decision.'¹⁸³⁰

In this regard, a civilian member of the CPG argued that the consideration of decisions impacting in the long term [CPG activity], would not be reflected positively in the course of a military officer's posting 'If the CPG is about capability planning and trying to take a decent view over a long term, that doesn't have an impact when you are in a two year posting.'¹⁸³¹ In other words, 'Having set decent foundations with something that might mature five, ten years downstream isn't often, might not be seen as cutting it'¹⁸³² This view, would be consistent with the idea expressed by another member who argued that there would be a stimulus for a military member of the CPG to have an impact during his posting (i.e. to be noticed for career enhancement), by means of making a relevant decision; even though the decision long-term consequences could not be necessarily well understood yet 'Is certainly a risk [impact on career

progression], in the sense that, for military in particular, who feel that they must make a difference in that post, once they are there, in order to progress their career, like to be able to get themselves into a position where decisions are made and then, the longer-term consequences may not have been fully addressed.¹⁸³³

Difficulty to operationalise priorities in terms of capabilities

Although the existence of different priorities between organisational areas is acknowledged by respondents, when talking about issues in the previous cluster; in a respondent's view, it would be a risk 'Another risk... for instance DE&S responding to the needs of corporate rather than responding to the needs of the MUC.'¹⁸³⁴ This view is also endorsed by another CPG member pointing out to the services in addition 'Anything that is going on in one of those three [DE&S, DSTL, the military] if you take the services, different domains, having a major impact in the area would obviously affect the interpersonal side.'¹⁸³⁵

Sub-organisational (single service) agendas

In the case of this CPG, in a member's view, the CAP area is dominated by one of the services 'We might say xxx [capability area] is quite xxx [a single service] dominant.'¹⁸³⁶ However, single service agendas are also perceived as a risk, as depicted by a respondent 'You get into vested interest concerns, basically... that perceptions of, at times, that a single service issue being pursued... it's a single service pot and it generate ideas in his interest and anybody else doesn't have any interest at all.'¹⁸³⁷ Furthermore, another interviewee mentions what would be an additional element to single services agendas where there would be hidden agendas pursued by some of the MUC members 'The single service issues cause me most concern, probably along with 'peaty' [bad] behaviours... Sometimes, I believe people have hidden agendas, as opposed to different agendas... Both of them, with the sponsor and potentially with DE&S'¹⁸³⁸

Another aspect raised by a CPG member was that in his view, civilian members would be free of the single service influence 'Being civilian means that I am largely free of any single service influence... there is no something like a second chain of command if you like, so when you have got a joint organisation everyone feels a strong affiliation to their particular service'¹⁸³⁹

Sharing and exposing information

Sharing and exposing information is also perceived as a risk when it is considered in the context of the negative influence that it could have on the perception about an individual's credibility 'I wouldn't never seen (sic) the extent of giving misleading information or covering over a possible shortfalls or problems, because my personal credibility would be too important to sacrifice on one particular issue'¹⁸⁴⁰ Although, in the interviewee's opinion, preserving credibility would be more important than any other potential short-term gain in a given post 'We move around quite frequently through different areas. So, at the end of the day, your credibility is probably more important than your particular appointment time.'¹⁸⁴¹

4.2.5 Capability Planning Group 5

4.2.5.1 Cluster 1. Perception about performance

Work in the CPG at present

At CPG level, work is undertaken with the basic idea of integrating cross-functional skills and capabilities. In this regard, differing perceptions of how capability planning activity is being performed were found. Positive expressions were related to the CPG seen as an influential body, as a mean for the effective integration of diverse skills and capabilities, as a focused and maturing entity, and as a small community.

From the outset, the CPG Chair sees it as an influential body 'The CPG is actually a very powerful body that can actually influence decision makers quite well.'¹⁸⁴², able to come up with a 'list of priorities' deemed fundamental for the balance between aspirations and resources pursued 'Is getting that list of priorities, I think is one of the strongest things the CPG can do.'¹⁸⁴³

CPG members are regarded as repositories of expertise, they... 'Bring a considerable amount of experience, knowledge, subject matter expertise to the table.'¹⁸⁴⁴ This expertise would be accumulated through the different activities undertaken by CPG members in their diverse areas of responsibility 'You carry forward the knowledge you have in your head from your CPG activity to other areas, and therefore you get those... Ahm, cross-references and relationships building up through time.'¹⁸⁴⁵ In addition, in another's respondent's view, CPG members prepare for meetings in advance in order to work effectively 'People come to the meeting prepared, because they expect to be able to make decisions, and you can't sit there with haven't read the papers or not having prepared.'¹⁸⁴⁶ Further, this CPG is seen as better than others, as the respondent is in a position to compare against other CPGs 'I think the CPG is actually a very good meeting... My experience with the xxx [CPG] one is the best I sit on by a long way. That might be personality-based'¹⁸⁴⁷ Moreover, it is argued that mutual knowledge and trust between CPG members facilitate CPG activity 'I think one of the reasons why that can happen is because we do all know and trust each other, reasonably well. Therefore, there isn't a perception that if two members of the CPG are off working in developing an area themselves, well they are not doing it behind other people's back.'¹⁸⁴⁸

One of the members, who has been integral to the CPG since its formation declared that as an entity it has been improving 'I have sat for fifth year of operation as a CPG... I have seen CPG maturing habits.'¹⁸⁴⁹ In another respondent's words, clear focus is other area of achievement 'One of the key improvements has been an improvement to focus.'¹⁸⁵⁰ Certainly, a clearer outline in terms of roles and responsibilities is perceived as contributing in this regard 'That well defined role and responsibility certainly has improved its outputs, I would say.'¹⁸⁵¹

Another aspect highlighted by a CPG member was the 'niche' character of the capability planning area covered by the CPG 'People may not rotate around the field quite as much as they do within the source small specialist niche capability area, we are in.'¹⁸⁵² This aspect, together with others enunciated would influence positively, in the respondent's view, the achievement of the expected outputs, 'xxx [CPG planning area] specialists tend to be a quite small community... meetings, is well structured, we know in advance what we are trying to do... and we achieve the outputs that are stated.'¹⁸⁵³ In the respondent's words, people follow a career around posts related to the capability planning area 'It's the same people, they may have got promoted, they may have moved on, but it's the same people.'¹⁸⁵⁴

Regarding perceptions considered to have a negative connotation, one of the CPG members highlights some points, although without making any connection between them. Firstly, he sees room for improvement in performance 'The performance is not as sharp as it should be'¹⁸⁵⁵. Secondly, in his view, there is a lack of direction and importance regarding the CPG 'The level of importance and direction given to the CPG from the Management Group has been missing.'¹⁸⁵⁶ Finally, in the respondent's understanding, there haven't been a consideration of the adjustments required in financial terms 'We've got a significant funding problem... we are going in a certain direction and then suddenly, the situation is changed, we should be re-evaluating the plan. We haven't done that real stop thing.'¹⁸⁵⁷

Some weaknesses depicted by the S&T representative are related to the lack of coverage across MOD regarding information, knowledge management and electronic solutions 'Information, knowledge management and electronic solutions are always a risk, they don't work. Currently they do not work across all areas of the MoD, and that really is a risk to sharing information.'¹⁸⁵⁸

Work in capability planning as it was performed in the past

Expressions about how capability planning was performed before the introduction of CPGs were limited to one respondent, a senior military officer, who maintained 'I say one of the problems with the CWGs was that there wasn't a clear distinction between planning, delivery and generation and they tended to wobble around between them.'¹⁸⁵⁹

Virtual work

According to the CPG Chair, the amount of CPG activity undertaken through virtual means is minimal 'We do very little in terms of virtual piece'¹⁸⁶⁰ Furthermore, another member argued that activity is carried out informally 'This particular CPG does quite a lot of work in an informal virtual way.'¹⁸⁶¹ In this regard, a third CPG member added that although people don't interact physically between the CPG meetings, they use electronic means to pursue capability planning activity 'But, you are still connected, because you've got that electronic means of doing things. The CPG uses a weekly brief as well, cover anything of interest. News, 'tit' bits, they include diaries, updates'¹⁸⁶² In the latter respondent's view, this activity is enabled by the Defence Information

Infrastructure (DII) 'DII connectivity that we have enables that. It's the glue that enables that'¹⁸⁶³

However, a fourth interviewee sustained that lack of physical interaction impacts negatively in the CPG performance 'Because of our area, outside those key points where we get together as a meeting, physically in one room, the level of output, the energy and the drive within the planning group fade away'¹⁸⁶⁴

Face-to-face work

Although the CPG rarely meets, physically or virtually, there is interaction between the members outside the CPG 'All our work is been done face-to-face. So, the CPG has very rarely met virtually. Although they would have undertaken virtual decision making... through email rather than using VTC, or specific teleconferencing, although they might talk on a one-to-one basis with others.'¹⁸⁶⁵

Work organisation

Different aspects deemed to have a positive connotation were mentioned regarding the work organisation for CPG activity. Firstly, the existence of a process to plan capability 'We have a regular process in place, so I think that's one of the real benefits the CPG construct has give us.'¹⁸⁶⁶ Moreover, there would be in place a more structured and auditable decision making process 'The CPG in my experience, xxx [CPG] particularly is structured to make decisions and to give direction.'¹⁸⁶⁷ This latter view, is elaborated by other respondent 'The CPG has put more rigour behind the process, that we have a fully auditable track record, that we can trace all the decisions back. Hasn't been done, in the past it was more ad-hoc.'¹⁸⁶⁸ Secondly, major effectiveness as a result of increased focus 'So, the CPG has refined its focus... and increased his effectiveness in producing his plans.'¹⁸⁶⁹ An example of this increased focus given by a respondent was putting aside capability delivery aspects 'Also, the CPG has moved away from what you call delivery decisions.'¹⁸⁷⁰ Furthermore, there would be in place a better approach to address S&T aspects 'I think it [CPG] has got better at handle scientific nature of its business, because of measures has been introduced.'¹⁸⁷¹

In relation to how CPG outputs are consolidated, a CPG member explains that the CPG performs annually an 'away day', where the whole CPG meet for two days. Preparation is made in advance, issuing papers, and at the end of the two-day work, the CMP is redrafted. In the view of a respondent it is a successful activity 'I think it works really, really well. It gets the team together'¹⁸⁷²

In any case, when compared to other CPGs, by a respondent positioned to do so, this CPG would perform better, following 'TLCM process' and receiving adequate directive inputs 'Some of the other ones I sit on are less well organised, in my opinion, and they don't work quite so well. They've followed the TLCM process, they receive direction from the CMG above, and the CMS.'¹⁸⁷³

When trying to sketch a contextualised general perspective of CPG activity, some points were raised by the respondents. Firstly, a respondent highlighted that CPG is not the members' day-to-day job 'When you look at the CPG, you have to look it into the context. That... is not their day job.'¹⁸⁷⁴ Furthermore, aspects contributing to feed peripheral cues to build interpersonal trust were mentioned by some CPG members. The xxx [CPG planning area] is a small community, where people commonly have had the opportunity to work together 'We are small, and therefore you find yourself you keep on meetings the same faces in the capability area. So many of them actually work together in different roles in the past...'¹⁸⁷⁵ In addition, in a respondent's view, there is a trend to go back to the xxx [CPG planning area], once people have been assigned to do staff work there 'The tendency in the UK for... if you find yourself doing staff work in the capability area, you will tend to go back to it.'¹⁸⁷⁶

Regarding aspects deemed to have negative connotation, two problems were depicted by CPG members. First, the FLCs would tend to underplay the consequences of decisions they make in terms of equipment and support in the capability planning area 'The decisions that they sometimes make within the FLCs, have consequences that they don't understand, and they don't plan for.'¹⁸⁷⁷ Further, FLCs would tend to have an optimistic perception in terms of time required to realise decisions they make 'They think that if a decision is made, then the outcome should be about very quickly. But it's not necessarily like that.'¹⁸⁷⁸ Finally, a criticism was raised against the whole TLM approach, in the sense that there would be an excessive number of committees 'One of the problems with the TLM construct is that there are too many committees.'¹⁸⁷⁹

4.2.5.2 Cluster 2. Nature of the interpersonal relationships

Relationships

One characteristic of the capability planning area mentioned spontaneously by the respondents was the relatively small size of the community 'The xxx [CPG planning area] is a small capability compared to some of the other areas. So, it's a small stakeholders community.'¹⁸⁸⁰ This aspect was declared by civilian and military members as well 'The xxx [CPG planning area] environment is a very small environment. So, you would generally deal with those people who are members of the CPG on other issues as well, that weren't CPG related.'¹⁸⁸¹ Similarly, another member highlighted that this aspect would be extended through a wider community 'Our domain is small... I would see them quite frequently in another meetings outside of the CPG. And, they would also see their colleagues.'¹⁸⁸² Arguably, CPG members interact in other capability management parts' activities 'We are working in the wider piece of the capability area.'¹⁸⁸³ This interaction would be weekly 'People interact across the three levels [planning, delivery and generation], and they are doing that on a weekly basis.'¹⁸⁸⁴

In a military respondent's view, because of the characteristics of the capability planning area, there is room to develop interpersonal relationships amongst the CPG members 'Because of the nature of the xxx [CPG planning area]

community, you can be meeting this people again, and again, and again, constantly, doing all sorts of different work, but you are still building and developing the relationship that you'll take back into the CPG...¹⁸⁸⁵ This view was shared by a civilian member of the CPG 'So, our CPG's interpersonal relationships are influenced by the fact they work together quite a lot anyway and they would do different meetings.'¹⁸⁸⁶

There was consistency amongst four of the CPG members regarding the impact of the size of the community and its effect on interpersonal relationships. Although not all of the responses are reflected here because it would have been repetitive. One of the perceptions about the small community that xxx [CPG planning area] represents is that capability planning activity can be carried out in the margin of other activities 'We do CPG work in the margin of other meetings... [that is] The strength of being small'¹⁸⁸⁷ Moreover, this would facilitate the perception of other people's skills and competences 'There is a trust, because we know that people, know their job and so on, and so forth.'¹⁸⁸⁸ This view is supported by a third member of the CPG 'I would say one of the strengths of the CPG I'm in is it is relatively small, and the core players all know each other, really quite well. And that adds to the interpersonal trust.'¹⁸⁸⁹ Further, another respondent argued that through time the CPG has reached a state where new members are inserted quickly 'I have been working in this role, I have seen relationships mature, so when people deal with other role and change, someone is able to come in and get involved quite quickly.'¹⁸⁹⁰ In summary, there is a positive view about interpersonal relationships in the CPG, in the words of a member 'Those interpersonal relationships work quite well. So, even when you send out quite a formal request by email, which is part of the virtual working piece, we don't all have to get together in a meeting to do something.'¹⁸⁹¹

Another facet was mentioned by a senior military officer, in the sense that personal agendas would be scarce between the CPG military members, this was attributed in part to the fact that CPG members are at about their career ceilings and, consequently, have no likely prospect for further promotion in the services 'There are very few personal agendas running within the group. And I think part of the reason for that is, that it is not a group who is going to be Generals or Admirals one day, most of us know that our career ceiling is Lieutenant Colonel, Colonel. So we are at, or very close, to our career ceiling, and therefore, there is not the kind of... personal political agendas that you might get if you have extremely ambitious people working together.'¹⁸⁹²

A source of potential conflict/tension in interpersonal relationships is mentioned when aspects impacting a single domain are addressed 'The only possible problems we have is where in CPG, for example, we are all talking specifically about a single domain.'¹⁸⁹³ This view is shared by another interviewee 'As always is a bit single service politics and is at that level, is at the single service levels that you get some frictions between interpersonal relationships.'¹⁸⁹⁴ Although, according to another CPG member, strong interpersonal relationships have played positively to avoid potential problems 'When you are looking to trade a capability, that's predominantly Army based, and transfer responsibility

to another of the services and this year has put an strain on the relationships... It has put a strain on the relationships. However, because people interact well across the community, we have managed to remain coherent this year. And I put that down to strong interpersonal relationships.¹⁸⁹⁵

However, there was a member who expressed perceptions deemed to have negative connotation. Firstly, an idea about relationships which should be improved 'The relationships that we currently got in the CPG are not as good as they should be'¹⁸⁹⁶ Furthermore, in the respondent's view, there would be deficiencies in bringing members together to develop the CPG 'I think, this whole issue, the intangible issues of team development... is something that we don't do well enough. We don't concentrate on ensuring that new members are integrated into...'¹⁸⁹⁷

Relationships virtual

In relation to the incidence of the intended 'virtual' nature of members interaction, in one interviewee's opinion, that would suffice to perform CPG activity. Although he didn't argue causative relationships for that, a plausible explanation is expressed mentioning the closeness of the xxx [CPG planning area] community 'I don't think the collocation matters, because we are quite a close community. I don't know if that is because we are such a close community or whether that is just because we develop good working relationships.'¹⁸⁹⁸

Constraints

One aspect raised by a respondent imposing a limitation to the development of interpersonal relationships had to do with personalities of CPG members 'It is just, the idea of personality... I am convinced that... the personalities that come together in a CPG would have a very large part to play in it success.'¹⁸⁹⁹ In this regard, the interviewee highlights the absence of any selective process to designate members to integrate CPGs 'The problem is that it's done by luck. We do not attempt to make, we make no attempts to look at the personality of the people we put in the CPGs'¹⁹⁰⁰ In the respondent view, it is likely that non-compatible persons undermine the whole CPG work 'It would be very easy... you can have one or two in there, where the personality is different, the motives are different. And all of a sudden you are half as effective quite easily.'¹⁹⁰¹ This idea is reinforced by another member who misses a structured approach to integrate people into the team 'Where is the integration programme, where is the process of bringing people up to speed, of introducing them into the team?'¹⁹⁰²

4.2.5.3 Cluster 3. Interpersonal trust determinants, as perceived by individuals

Although perceptions about the level of influence of the different interpersonal trust determinants were varied, most of the CPG members perceived interpersonal relationships positively. Some plausible reasons and factors are mentioned 'Some of this, of course, is personality related...'¹⁹⁰³ Although the interviewee gives more relevance to the role played by the CPG Chair, which in

his view is deemed fundamental, in terms of developing trust 'Is his leadership and chairmanship [CPG chair] that drives you toward a different level of trust.'¹⁹⁰⁴

In broad terms, one of the interviewees asserted that all of the routes and determinants played a role in building and maintaining interpersonal trust in the CPG, 'I think for me it is all the elements of it, and it is all the peripheral, all the central, all the habitual'¹⁹⁰⁵ In addition, another CPG member alluded the fragile nature of trust 'I think it is a staircase you can go up and you can come down.'¹⁹⁰⁶

Peripheral route

There were no expressions about the use of the peripheral route as a whole. Although, views were not completely similar, they mentioned all the peripheral determinants, but disposition.

One respondent recognised the use of third party information 'I definitely go around and collect third party information'¹⁹⁰⁷ Which was asserted as an influential determinant in another interviewee's word 'A lot is third party information.'¹⁹⁰⁸ However, in another member's opinion, it is history the peripheral determinant which exerts more influence in terms of determining interpersonal trust in the CPG 'Probably the only one that stand out here [peripheral route] is history, given that many of these have worked together previously in some other areas.'¹⁹⁰⁹ For a third interviewee, the relevant determinants were history, role and third party information 'I'll be looking at his history. Clearly, the role is important as well... and third party information'¹⁹¹⁰

Furthermore, when considering the relative degree of permanency of people involved in CPG activity 'By and large you've got people who have been in that community for some time.'¹⁹¹¹, category and role were implicitly mentioned as well 'At that level, we all recognise that you don't get to that level without a degree of experience, competence.'¹⁹¹² Moreover, another respondent mentioned explicitly the influence of military ranks, the category determinant 'I think, rank is important'¹⁹¹³

Central route

From the outset, the CPG Chair pointed out that the central route is the most influential route to build and maintain interpersonal trust 'Here [central route] is the key determinant'¹⁹¹⁴ Moreover, in another member's view, through interaction, trustworthiness is assessed rapidly 'The central route is the key bit... you make some pretty quick judgements, about whether they are any good at what they do, and whether you can trust them.'¹⁹¹⁵ Interacting in different activities is regarded as a context for assessing ability and integrity 'I am able to develop an habitual relationship with them for quite a while, just by interacting with them in different meetings. Although that would naturally influence my perception of their ability and certainly their integrity.'¹⁹¹⁶ This relevance of the central route is considered together with having previously known (peripheral route) members as well 'For me is the central route, because... we assess people on their ability. Be it, a piece of written work, or their ability to speak as

we are speaking now, or to provide a presentation. So, that then give us a feel. Plus... people would know of that individual as well.¹⁹¹⁷ Furthermore, clearly, for one of the respondents, the influence of the central route would be dominant over the other two 'I mean, there is absolutely no doubt that these three here [central route] over-weigh the rest... hugely.'¹⁹¹⁸

Regarding the influence of the determinants, there was consistency about the influence of the three determinants 'The main determinant in the central route would be ability, secondly integrity and the least relevant benevolence. And that then is reinforced by, every time you meet them...'¹⁹¹⁹ Further, again ability is perceived as the pre-eminent determinant 'I think, in the central route I would probably say ability [has more relevance]'¹⁹²⁰, and 'I would rank ability as the highest.'¹⁹²¹ In addition, integrity is regarded as influencing closely behind ability 'Integrity is closely aligned to that.'¹⁹²², although integrity would tend to be assumed as a requirement to reach the stages of the career that CPG members have reached to sit there 'Integrity. I am not sure how far we go. There is an issue with integrity because I think that most people within the military environment of the same rank... We've almost selected out people that don't have integrity, because you wouldn't have got promoted, you wouldn't have got advancement in your career, unless you have that personal integrity.'¹⁹²³ Further, although benevolence was regarded as relevant in the CPG context 'Benevolence... is a very important piece... is not simply a case of coming to the CPG and taking. Is a case of coming to the CPG and giving.'¹⁹²⁴, it was considered as less influential than the other two determinants present in the central route 'Benevolence is not as important as the other two factors for me... I would suggest that is ability, integrity and then benevolence.'¹⁹²⁵

Habitual route

The habitual route was regarded as relevant to build interpersonal trust in the CPG 'Then I think these things [interpersonal trust determinants acting through the habitual route] become important [as they are getting to the habitual route].'¹⁹²⁶ Moreover, there is the perception that there would be room for the interaction required through time, reinforced by the 'away-day' activity carried out 'We do an away day as well, as part of the CPG, two days out of the office... And I think it really covers the habitual route... and I think that it really helps the way we develop.'¹⁹²⁷ This 'away-day', in particular, is seen as an element to build interpersonal trust 'You build trust through that away day.'¹⁹²⁸ Although the importance of the habitual route in terms of forming trust in a maturing relationship is recognised, there were differing views about its realisation in the CPG. On the one hand, the use of the habitual route is acknowledged in the CPG's activity 'I don't think we can work effectively without the habitual [route]. And I think that really has helped.'¹⁹²⁹ Conversely, in another member's view the use of the habitual route would be very low 'If it is happening at all is very weak [the use of the habitual route in the CPG].'¹⁹³⁰

Regarding the determinants in particular, there was only one isolated comment, highlighting the significance of social bonds 'Social bonds, I think that is pretty important... by socialising then that reinforces those bonds and it becomes a virtuous circle.'¹⁹³¹

Relation between the routes

One thought expressed by a respondent followed the idea of the initial incidence of the peripheral route, and a further influence of central and habitual determinants in building and maintaining interpersonal trust 'If I have got somebody new come in, I would do the peripheral piece. But, the rest of the time it is a combination of central and habitual. Because, as I said, we do meet up outside.'¹⁹³² A similar opinion was sustained by another CPG member 'So, immediately he is seen, because somebody you trust has told you that that guy is good [third party information, peripheral route]... that, by and large is then reinforced through interrelationships [central route] and personal dealings [habitual route]'¹⁹³³ Although the main influence in another respondent's view would be in the central, followed by the habitual, route 'Principally the central route, but, with the habitual route, being important as well.'¹⁹³⁴

A combination of the incidence of central and peripheral cues in the CPG was depicted by an interviewee 'The individuals, by and large have got credibility for their subject matter knowledge [ability] as well as the seniority and experience [role] they have got as a result of been a ... you know, at a certain rank level. These individuals have got subject matter expertise, that I think, you know, again, builds trust...'¹⁹³⁵

In general, when speaking about CPGs and the use of the routes one member's perception was that most of the CPGs stand between the peripheral and the central route 'I would say most of them are sort of between here and here [peripheral and central route]'¹⁹³⁶ Although most of the CPGs would reach the central route, some of them remain using only the peripheral route 'Perhaps routinely, it would sit here [central route]. But some of them [CPGs], I would say are on the peripheral edge'¹⁹³⁷

4.2.5.4 Cluster 4. Existence or non-existence of issues, regarding interpersonal trust

Although in the view of one respondent there weren't issues regarding interpersonal trust '[trust] is not an issue that we certainly come across at all. We've never found that there has been any breakdown in that'¹⁹³⁸; in another CPG member's view there were minor issues 'I think the trust issues are minor.'¹⁹³⁹ Furthermore, in another respondent's view, there would be a general issue set by a difficulty to establish realistic goals in terms of time, performance and costs compromising the different stakeholders perspectives 'What we fail to do is for everybody to understand that,... the group and the individuals within it, are focused on achieving an outcome, which is improve xxx [CPG planning area] capability.'¹⁹⁴⁰

Single service agendas and different priorities between organisational areas

From the outset, a CPG member recognises the existence of individual agendas 'Irrespective of the fact that you work collectively, you all have your own agendas, and you are all looking to enable your agenda to be

achieved.¹⁹⁴¹ This kind of agenda together with the influence of the services are deemed to be influential in terms of interpersonal trust 'The different priorities and the single service influence, yes that can be a very significant player.'¹⁹⁴²

One example is given by a respondent about a member who had to fulfil a role where the course of action associated with providing better capability was perceived as detrimental for his service 'Whilst he might be green [Army] his natural badge, he has a blue [Air Force] hat.'¹⁹⁴³ Although he might have been favouring solutions involving his own service, 'He might be more inclined to look at, to favour perhaps land solutions rather than necessarily the best solution... is natural'¹⁹⁴⁴, this has not been the case. There was an understanding about that pursuing that option would have affected negatively his military career 'His integrity has been such that he has done that. But, what cost it has been to his career?'¹⁹⁴⁵ As a corollary, it was expressed that this kind of behaviour shouldn't have a negative consequence for the individual 'One of the issues that need's to be sure, that people can trust the system, if they make decisions that potentially go against the... what is perceived to be the way they should be voting'¹⁹⁴⁶ In other words that '... the system then doesn't take it out on them in any way, shape or form and disadvantage them in their careers.'¹⁹⁴⁷ This situation is presented as affecting negatively interpersonal trust in the CPG 'This whole issue undermines the trust within the CPG.'¹⁹⁴⁸

A respondent depicted, in his view, how single service influence is present in the CPG. First, he pointed out that naturally members have an allegiance to their own services 'At the end of the day, we are all very loyal to our cap badges and to our own services.'¹⁹⁴⁹ Then, a number of posts would be held by people from his own service 'Because is quite niche... My own particular branch holds a number of the key joint posts.'¹⁹⁵⁰ In this regard, in the respondent's view, if there were members from different services or with a higher rate of change in CPG membership he would be more careful 'If those posts were more rotational or if you had other cap badge filling those posts, then, I would be more cautious.'¹⁹⁵¹ In the end, this single service influence was illustrated as an inevitable condition 'I don't think you'll ever get away from that. To be honest with you, I think that is just a fact of service life.'¹⁹⁵²

Another aspect mentioned was a relatively variable importance paid by the services to the CPG's capability planning area 'xxx [CPG planning area] is not important to the FLCs'¹⁹⁵³ This situation would drive to changing positions sustained by CPG members regarding matters considered. In a respondent words 'Haven't got a constant goal to where is that the CPG needs to go, because you have got a number of different levers.'¹⁹⁵⁴ Further, this situation would impose difficulties in terms of absence of clear priorities and consistency to perform CPG activity 'It's very difficult... to compensate for what is seen to be a lack of priority, a lack of consistence.'¹⁹⁵⁵ This difficulty would be exacerbated in the case of the Army, because it would be very different to the other two armed services 'In the UK the Army is the largest service, and it is culturally much more different to the other two services than they are to each other, and it has very different,... different priorities, different processes to the other two services...'¹⁹⁵⁶

Financial resources

Scarcity of resources is regarded as a factor, when decisions being considered have impact on the services, impacting trust at the working level 'Money always get in the way... Because, at the end of the day is about how much money has been spent on training, or equipment and..., and... trust issues in the relative priorities of capability are actually being honestly exposed.'¹⁹⁵⁷

Withhold information

Opposite perceptions were expressed regarding information withholding in capability planning activity. On the one hand, a respondent neglected this aspect as an issue 'I don't think management of information is an issue.'¹⁹⁵⁸, arguing that the CPG has always had the necessary information to carry out its work 'I don't think we've ever had an issues where we haven't felt that we had the right information available to make the decision.'¹⁹⁵⁹ Conversely, another respondent, although recognising the community as a small and cohesive community of specialists, he sees that 'The xxx [capability area] tend to be stovepiped from a defence perspective'¹⁹⁶⁰ In any case, in another respondent's view the weaknesses about managing information arise from the quality of the information management systems 'Information withholding, where that happens is usually due to the poor quality of our information management systems, not due to people deliberately withholding information.'¹⁹⁶¹

Trust between the services

An aspect raised by the S&T representative, a civilian, was the perception of a reticent relationship amongst the services 'The FLCs may not trust each other.'¹⁹⁶², as opposed to the relationship at the working level 'While we work, we work quite well at them, and I certainly work quite well with them. I don't necessarily get the perception that they automatically trust each other.'¹⁹⁶³ In his view, interorganisational barriers, in the CPG, are broken down by the interpersonal relation between the CPG members 'I think that is also the case that some of the organisational barriers has been broken down because of the interpersonal relationships.'¹⁹⁶⁴ An example is offered 'If a FLC says I really want this particular piece of capability, is everybody sure that we are talking about that particular piece of capability, or is it actually tied to how they want to preserve their organisational structure.'¹⁹⁶⁵

Rotation

The rate of rotation of the military members of the CPG was also mentioned by an interviewee as impacting interpersonal relationships in the long term; consequently, making more difficult the use of the habitual route to build and maintain interpersonal trust 'The long term relationships are a bit more difficult, when dealing with the military because they change every two and a half years.'¹⁹⁶⁶

4.2.5.5 Cluster 5. Existence or non-existence of risks beyond interpersonal relationships, regarding interpersonal trust.

The existence of different risks, and how one of these impacted people, is depicted by the CPG chair 'We may all come into it [possible promotion, financial situation, different priorities between organisational areas (DE&S, support; DSTL, research; Head Office; single services agenda), exposition of information potentially used against who provided it], and I think certainly I've seen it, many areas where information has been used against, potentially against, those who provide it.'¹⁹⁶⁷ In the respondent's view, this aspect make visible the relevance of individuals being certain that undertaking his responsibilities would not harm them, as already mentioned, 'That again comes down to the system, having sufficient maturity to allow you to actually undertake that activity, the best possible way.'¹⁹⁶⁸

Possible promotion

Two respondents addressed the influence of prospects for further promotion seen as a risk. One of them mentioned it tangentially. In the view of the DE&S representative, a consideration would be the interest of the individual's chain of command in the outcomes of the CPG; and to what extent they would be seen as part of the individual's roles and responsibilities within his work 'We have to understand where does the importance of the CPG, and the outputs of the CPG, where is that stand in the SO1s [OF4s] chain of command. So, is my reporting officer, and for example my team leader here and my one star here, are they interested and driven by the outcomes of the CPG. Does it influence the way they see me as performing in my roles and responsibilities here.'¹⁹⁶⁹

The User representative depicted his perception of the influence of possible promotion as being as very low 'I don't think... as long as I do my job, in a way which is competent and clearly in the best interest of defence, there are very few risks to me from the people around me.'¹⁹⁷⁰ Although the reason given for this was the consideration of the fact that he had already reached his 'career ceiling' 'Partly because, I am in my career ceiling, I will not be promoted again. And therefore, I don't have to worry about that perception from senior people so much.'¹⁹⁷¹ Moreover, the respondent argued that this situation of absence of prospects for further promotion allows big independence in his work, which is something he perceives is somehow otherwise limited 'That gives you enormous freedom, you can say what is actually true, rather what you think the boss wants to hear. Which of course we should do always anyway, but not everyone does.'¹⁹⁷² In the respondent view, this 'freedom' allows him to pursue his role integrally, instead of being concerned about potential negatives outcomes for him 'When I am doing a risk assessment, it tends to be a lot more on the lines of... is this going to prevent me executing my role well rather than is it going to damage me personally.'¹⁹⁷³ Finally, the interviewee expressed that before reaching his career ceiling he would have been more careful about this risk 'Before I was promoted I would have been in a different position.'¹⁹⁷⁴

Financial situation

The financial situation was mentioned when asking about risks regarding interpersonal trust. In the words of one of the respondents, it is a permanent consideration which drives to devise 'options' to enhance capability or save costs: 'Finance is always there... the financial situation is the thing that forces you to do your planning round and forces you to raise options.'¹⁹⁷⁵ Moreover, this view of finance as a source of risk is supported by another respondent, who argues that under the current economic situation this element appears to be an issue 'Finance at the moment. Although I would say that beyond of being a risk, is now an issue...'¹⁹⁷⁶ Furthermore, the latter interviewee adds that this situation is intensified by single service agendas 'The more those caps you put in, the more strain you put on the individual agendas within the CPG, and in particular, and we have seen this, the single service agendas.'¹⁹⁷⁷

Difficulty to operationalise priorities in terms of capabilities

An aspect mentioned by one respondent was an alleged lack of importance of this CPG's activities for the FLCs, which would be reflected in low attendance to CPG meetings by the members, which are replaced by delegates; or members attending to the meetings without the adequate preparation for the meetings 'There are probably one or two FLCs that don't see the CPG, in terms of their chain of command, don't see it as important. So, consequently the people that are then supposedly going into the CPG to make decisions, don't see it is important. That's why a number of them don't turn up [to appear]. And when they do turn up, they haven't done the preparation, and they are not really interested.'¹⁹⁷⁸ Furthermore, this problem is attributed by the respondent to the nature of the capability area, rather than to the CPG members 'I would suggest that would be a problem with xxx [CPG planning area] environment, rather than the fault of the CPG.'¹⁹⁷⁹

Sub-organisational (single service) agendas

The CPG chair explains how, in his view, single service agendas are the biggest risk in the sense that members can be perceived as acting against his organisation's interest 'For me the biggest risk people face is the fact that at the end of the day, you've got to produce this prioritised piece of work that may disadvantage, or may be seen to disadvantage, your group, the group you represent, being the Army, the Air Force, or the Navy.'¹⁹⁸⁰ Moreover, in the respondent's view, the risk would be apparent when courses of action 'better' than the one preferred by the individual's own organisation are considered in the CPG 'The fact that you might have to support courses of action that, or... an alternative course of action that is actually better than the course of action that you have been told to drive forward... that then come to maturity of the organisation'¹⁹⁸¹ Furthermore, a mitigating element would be the membership of a Joint User representative who would help to consider and balance the arguments 'He is very much in some ways the arbiter... in a way he can mitigate risk, because he can then arbitrate, and say well this is even though you've spoken strongly for the Navy, but recognise potential that the RAF's one is the best option'¹⁹⁸²

Sharing and exposing information

The S&T representative in the CPG raised the idea of CPG members not involving themselves in capability planning activity. In his view, there is a risk of people don't playing an 'meaningful' role in the CPG 'So, if someone doesn't put the effort in we might not therefore represent our organisation in the best way possible.'¹⁹⁸³ Furthermore, the member could be perceived as not being a 'useful' member of the CPG 'It does happen I think is a key risk, if people aren't perceived to be engaging. Be either in the core business or in the non core business... then there may become a perception that they are not a useful member of the team.'¹⁹⁸⁴

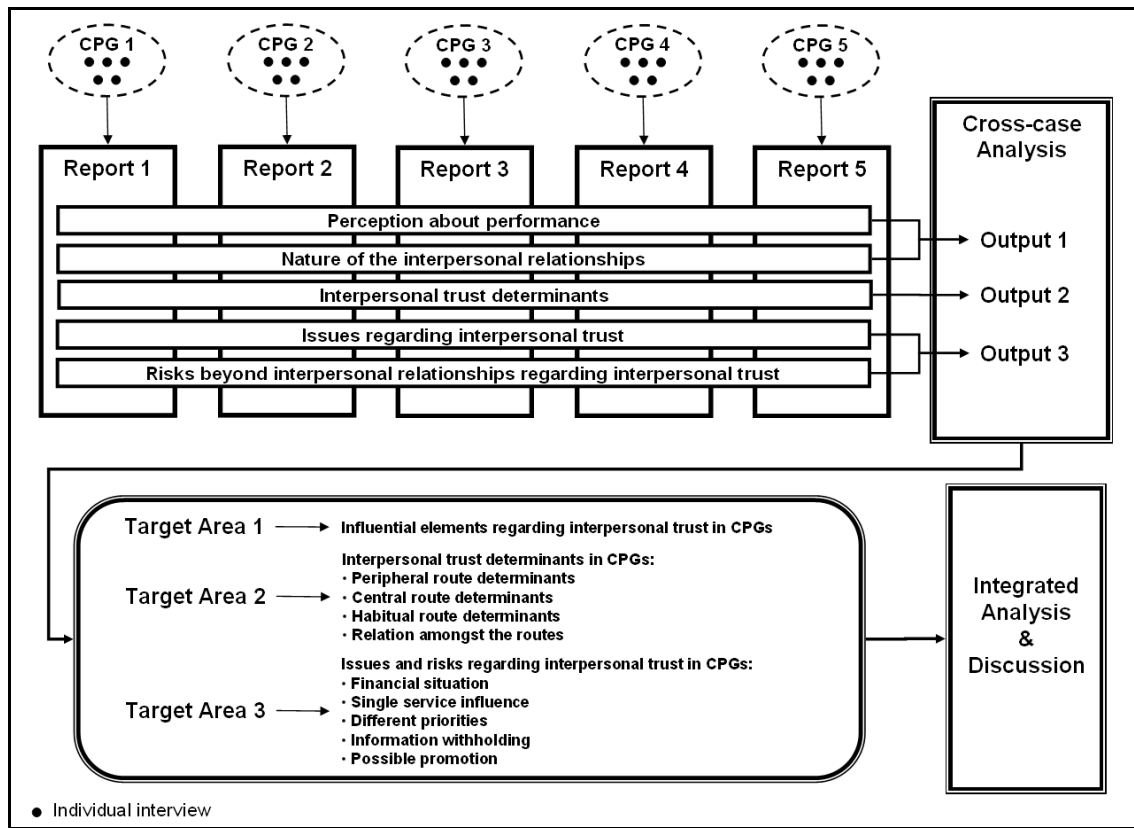
'If you reduce the amount of experience and ability at the CPG to save effort, or for efficiency reasons. Then those plans would naturally start to become less effective.'¹⁹⁸⁵

4.2.6 Cross-case analysis

The research methodology proposed in Chapter 3 was intended to address the understanding of interpersonal trust determinants in VTs, in the capability planning context. In particular, Phase I, the first wave of data collection, was intended to confirm the interpersonal trust determinants incorporated from virtual team's and organisational literature, in the adapted model proposed in 2.4.3 'An adapted model of trust in VTs', and to establish what were the issues and risks influencing interpersonal trust in the capability planning context. In this setting, the CPG context, as discussed in chapters one and two, skills and capabilities are integrated in a cross-functional manner, across defence organisations in the MOD Unified Customer (MUC).

Data collected through the Phase I of the fieldwork, which considered interviewing the members of five selected CPGs (4.2.1 'Capability Planning Group 1' to 4.2.5 'Capability Planning Group 5'), was initially sorted and analysed around five clusters, as shown in Figure 4-3. Subsequently, the interpretation of the evidence emerging from the cross-case analysis carried out, was integrated around the three lines of enquiry originally stated in 3.5.1.1 'The enquiry', named outputs one to three at this stage, in order to underpin the identification of target areas and the further elaboration of the instrument for the second wave of (quantitative) data collection. These were Target area 1 Influential elements, Target area 2 Interpersonal trust determinants, and Target area 3 Issues and risks regarding interpersonal trust, and risks beyond interpersonal relationships regarding interpersonal trust (See Figure 4-4). The second phase, carried out afterwards, across the whole population of CPG members, through a survey questionnaire, was intended to provide confirmatory and more detailed evidence to perceptions expressed by key informants, and to integrate the findings of both phases in a structured manner. This later stage, providing additional robustness to the conclusions, is developed through a further integrated analysis and discussion in Chapter 5.

Figure 4-4 From Phase I of data collection to Target Areas



Source: Author

4.2.6.1 Output 1 Influential elements

Output 1 provided some background information to contextualise data gathered about interpersonal relationships in CPGs. This information was important, because it allowed a deeper understanding about how CPG members interact, and interpretation and analysis of the qualitative data collected.

Influential elements were grouped around two main topics: performance of the CPG regarding capability planning activity and, nature of interpersonal relationships between CPG members.

Performance of CPGs in Capability Planning

The emergence of three trends concerning CPG performance is clear across the cases. Firstly, capability planning activity, undertaken utilising VTs, is perceived as ‘a lot better than in the past’, when compared to the previous model used to plan future capabilities. However, the consideration of performance of capability planning activity deals with the difficulty of the long lead time required to ascertain benefits which would be set in a scene where there could be many other plausible explanations for the achievements realised. Moreover, although there is no objective measurement of the performance of the CPGs, anecdotal evidence collected points out that undertaking capability planning utilising VTs was clearly a better approach. This was the general

perception as a number of reasons were expressed, which in summary enable to undertake capability planning activity with more and wider perspectives, emphasising capability and a through life approach; with clearer purposes, roles and responsibilities; together with an effective and opportune integration of main stakeholders to prioritise and agree capability planning. Secondly, there is a perception that capability planning is undergoing a 'developmental process', not complete yet, where capability planning activity is far from the realisation of potential benefits. Thus, although the majority of the findings refer to benefits of utilising VTs, some of the challenges of virtual teaming were observed too. Thirdly, there was a controversial trend where positive and negative characteristics were mentioned when describing work at present in the CPGs, contradicting each other inside the different CPGs studied, which was portrayed in the findings as well. This trend is coherent with the idea of contextual elements regarding every particular capability planning area playing a prominent part of CPG activity

Regarding the elements within the first tendency, at times it was difficult to ascertain perceptions comparing present and past models employed to perform the planning of future capabilities based on experience of the individuals, because of the rotation that characterise in-service personnel postings. Nevertheless, based on personal experience and perceptions, previous approaches were depicted unanimously, when commented upon, as adversarial, covering a less comprehensive forum, and taking a less structured approach. In summary, on the one hand, previous capability planning activity was seen as 'groups of stakeholders trying to get a common picture, without a clear aim or understanding of what they were doing'. Conversely, capability planning at present, for a broad majority of the respondents, although going through a developmental process, presents a number of characteristics that are perceived to outperform previous activity. As examples were mentioned a more effective consideration of projects as subsets of programmes and undertaking a more staged approach, resulting in better interaction with projects related to a particular capability planning area and more balanced outcomes.

As regards to the second trend, concerning the developmental state of the whole capability planning approach and the use of VTs in capability planning in particular, benefits and challenges (2.2.5.3 'Benefits' & 2.2.5.4 'Challenges') depicted in the VTs literature reviewed were perceived, to some extent, by the CPG members. Thus, confirmation of the literature reviewed can be asserted. In addition, a recurrent perception is that capability planning would work best in forum rather than by virtual means. Thus, a positive influence would be posed by the fact that in capability management there would be interaction between members outside of CPG activity. This interaction would be mainly in a one-to-one basis though. This interaction enables carrying out CPG work informally. These dealings are complemented with virtual interaction, enabling what is perceived as a necessary combination of virtual and face-to-face work. Furthermore, virtual interaction would assist in undertaking general CPG activity, and to keep members aware of work being developed; complemented with co-located activity deemed essential when dealing with complex topics or to solve disagreements.

Based on the perception of the individuals, VTs benefits and challenges are observed in a demanding scenario where the complexity and transverse nature of the issues CPGs deal with, together with the substantially different nature and dynamics of each CPG's work, considered when selecting the CPGs to study, (relevant technologies change pace, applicable threat evolution rate, speed of pertinent policies or management approaches development, etc.), and that the different capability areas are managed under 'different ideas, behaviours and approaches' set a challenging setting. In this context, a salient challenge would be the communication and coordination of work. In summary, the recurrent perception is that capability planning is improving steadily, moving in the 'right direction' to realise potential benefits, although the room for improvement would be still ample.

Within the third trend, contradictory views regarding work at present in the CPGs, where contextual elements pertaining to each CPG would influence greatly CPG activity were asserted. Often, what are seen as benefits or challenges of utilising VTs are mentioned indistinctively as realised or not; or advantages in one CPG are perceived as disadvantages in other CPG. For example, the 'better emphasis in capability and through life' is opposed to 'poor long term perspective', or 'blurry boundaries between CPG, CMG and Programme Boards' is opposed to 'clearer purposes, roles and responsibilities'. These contradictory views could be plausibly attributed to different contextual considerations, like the dissimilar settings, where each CPG work in; or diversity of management styles amongst CPGs, that influence and shape activity. In addition, the number of boundaries crossed related to different projects, programmes, capability areas, services and organisations; complex and multilevel, poses a further facet to assert that contextual elements diverge greatly from one CPG to another. Furthermore, the intense collection of differences between CPGs, their tasks, and the challenging environment set by the size and complexity of the MOD (stovepipes and silos), in which they function makes it very difficult to develop generalisations about positive or negative characteristics or, benefits and challenges realised that could apply across the whole capability planning activity.

Although electronic interaction eliminates part of the context, making more difficult to achieve a shared understanding, cultural aspects, and tools and information, shared to some extent, would provide, a moderating effect to the burden provided by reduced co-located activity and work context.

Nature of interpersonal relationships in CPGs

Interpersonal relationships are a field where individuals gain more information about each other, perceiving cues of trustworthiness that once processed allow developing interpersonal trust. From the outset, when compared with interpersonal relationships in previous models of capability planning, CPGs were mentioned as having 'better' interpersonal relationships. In addition, the mainly virtual nature of members' interaction would suffice to perform CPG activity.

Accordingly, it is rather clear from the evidence that general perceptions about interpersonal relationships between members in the CPG highlight interpersonal trust as enabling virtual work, although displaying a mix of positive, neutral and negative views. In any case, it is apparent from the evidence that all the parties' work under the fundamental aspiration of integrating the different views, at different levels, in the overarching taxonomy of defence capabilities.

Firstly, capability planning requires an environment for open, but guarded discussion, assuring that ideas or proposals will not be widely disseminated; and that a situational problem or a potential solution to a problem can be exposed. In this regard, with the introduction of capability planning, interpersonal relationships are seen as improving, with a deepening of the links between the organisational areas involved. In general, discussion is enabled by a positive environment where open and opportune interaction is made possible. An element to this being that the CPG members have a similar rank level and have an equal voice. Although, there are capability areas with more 'arid' settings than others, 'far more competitive and confrontational'.

A relevant element depicted about interpersonal relationships was the consideration that there would be some CPGs whose members belong to closely related communities, with members having lots to do with each other, outside CPG business. Conversely, in other CPGs this situation would be the other way around, with for example one or two members related, but not greatly.

Some planning areas or capability planning areas, are smaller, with a small stakeholders community 'very familiar with each other'; then CPG members deal with other members of the CPG often, on other issues that weren't CPG related as well, in the wider piece of the capability area, across the three capability management parts (planning, delivery and generation). In that case, capability planning activity can be carried out in the margin of other activities, doing all sorts of different work, but still building and developing the relationship that members take back into the CPG. This is regarded as the 'strength of being small'. This element would have played positively to avoid potential problems, because people interact well across communities, managing to remain coherent. Conversely, the level of closeness in some small communities, potentially, could bring negative effects as well 'because it brings prejudices with it as well.'

Occasionally, there is a degree of previous knowledge between some CPG members, where people have related service career paths, and know each other quite well; a framework where they have people who trust or not, facilitating initial attribution of trust, that network is seen as critical to interpersonal trust in the CPGs. In this regard, in the view of a number of respondents, although a close relationship is important, achieving shared understanding would be the main goal to accomplish, thus meeting regularly would be necessary to understand other members' perspectives; otherwise, people would tend to fragment and to work stovepiped ending up just having bilateral relationships with different organisations. On the other hand, some planning areas are bigger or wider, with ample communities, covering a

capability of interdependent nature, or joint. In those cases, it could be 'too many people' and remains much less personal, with members tending to come together for a meeting and disappearing to do their business again, slowing down development of interpersonal relationships. Furthermore, in this setting, a source of potential frictions in interpersonal relationships would be when aspects impacting a single domain are addressed. In any case, there would be a base of trust that would be different between military members pertaining to one service, which would be weaker when involving members coming from different services, in a joint environment.

Secondly, the evidence from the respondents illustrates that there are some challenges related to interpersonal relationships between CPG members. These challenges are: bringing the CPG members together, communicating and coordinating work, balancing co-located and virtual work, identifying and implementing the adequate information technology tools, and the influence of where the desk officer is in his job-cycle regarding the CPG.

One of the challenges regarding interpersonal relationships would be bringing members together to develop the CPG, and ensuring that new members are integrated; because, in the view of the respondents, they lack of an adequate process to engage in virtual interaction. In this regard, characters of people involved would be influential. The CPG approach would be sound, principles would work very well, but reliant on the CPG members to engage and perform. Personal interest in the other members of the CPG is necessary to achieve CPG goals 'to understand the requirements and issues better... it makes the network work.' People in the CPG have a common background, common goal, but it 'will always be personality driven as well'. Furthermore, although personalities of CPG members, would have a 'very large part to play in its success', there is no selective process to designate members to integrate CPGs, 'no attempt to look at the personality of the people which is going to be put in the CPGs'. Thus, non-compatible persons could undermine the whole CPG work 'and all of a sudden to be half as effective quite easily.'

There is a challenge in communicating and coordinating work in VTs, keeping aligned understanding and individual's activity; otherwise, decisions could be made before relevant members can have their input. Moreover, on occasions, this challenge has been difficult to overcome; particularly if there has been miscommunication or analysis may be late, or hasn't quite delivered what other members thought they would get.

A further challenge is posed by the necessity of achieving a balance between co-located and virtual work in capability planning 'it's a careful balance, there is a role for virtual working, but you've got to have that face-to-face time as well.' This would be mainly because lack of collocation would slow down activity and communication flows, because a lot of communication flows informally. Similarly, lack of co-location could facilitate stovepiping, establishing coherence at suborganisational level (MUC isolated members), instead of coherence across defence.

An additional challenge is to identify and implement the adequate information technology tools to undertake capability planning activity. In the views of a number of respondents, there are information technology tools more suited for work in capability planning like email, team sites or VTC, but chat rooms are deemed as not as suited. Email allows distributing stuff, allows people to read and comment back, and allows telling everybody what comments they think. In addition, the use of CPG 'team sites' is seen as a straightforward mean to keep information flowing amongst members. However, as regards to shared understanding, it is deemed really difficult to convey issues over a video link and pick up for example body languages, so challenging issues can't be tackled by remote links. Moreover, a chat room would not allow having a discussion as useful as being face-to-face. Chat rooms are deemed quite difficult, because 'it's very easy to type things out, and send them without think about it'.

Accordingly, there were opposed views about the benefit of bringing in more technological means to work in CPGs. On the one hand, available tools were believed to suffice for activities in capability planning, 'in terms of technology that's enough.' On the other, there would be an advantage having better technologies, more collaborative working environments, to move things forward quickly to address CPG activity. Although technology and travel would not be an issue for CPG purposes, because CPG members would not be widely spaced. Furthermore, limitations to connectivity between CPG members would slow down CPG activity, task generation, and production; to share work, and develop work together. Likewise, there is a limitation because of the connectivity required to work in some matters of higher classification, because not every member has connectivity through the DII to access the VT site.

Finally, to what extent the virtual context facilitated or made more difficult interpersonal relationships, would be related to where the desk officer is in his job-cycle, when they are new, 'the first six months has gone into establishing trust and going into your piece... that sometimes can be quite difficult at first'.

To sum up, the findings across cases show the emergence of two groups of findings regarding influential elements. One related to performance of the CPGs in capability planning, and the other concerning the nature of interpersonal relationships in CPGs. First, it is clear that performance is perceived as 'a lot better' than in the past for a number of reasons discussed. Second, capability planning activity would be undergoing a developmental process, where benefits and challenges of VTs are perceived, although with ample room for improvement. Third, controversial views about work at present in the CPGs are coherent with the idea of contextual elements playing a prominent part of CPG activity in every particular capability planning area.

Regarding the nature of interpersonal relationships in the CPGs, a number of views concentrate on the necessity of an environment adequate for open, but guarded discussion. In this regard, the existence of smaller communities, depicted as opposed to wider communities would facilitate or constraint interaction, thus smoothing or slowing down the process of trust attribution respectively. In addition, some challenges to interpersonal relationships between CPG members would be: bringing and integrating members together;

communicating and coordinating work; achieving balance between co-located and virtual work; to identify and implement the adequate information technology tools to undertake capability planning activity; and the existence of influence posed by the stage of the job-cycle where individuals working in capability planning are.

4.2.6.2 Output 2 Interpersonal trust determinants

Respondents were asked about the factors that determine interpersonal trust in the CPG. From the evidence, it was confirmed that the adaptation of the integrated model of interpersonal trust formation and maintenance in traditional organisational settings and in VTs, expanding the model suggested by Hung et al, embraces the particular dynamic of interpersonal trust formation and development in the context under consideration. Thus, three routes to interpersonal trust, peripheral, central and habitual are used, and the determinants operating inside the routes correspond to those suggested by Hung et al. In addition, it was included 'History', suggested by Kramer as an antecedent condition of interpersonal trust in organisations, as a determinant acting as a peripheral cue that serves for the formation of initial interpersonal trust prior to interaction in the CPG. Furthermore, considering the particular context where these VTs are inserted, 'Social bonds' and 'Personal identification' were suggested as determinants operating in the habitual route. Further, in Output 3, issues regarding interpersonal trust, and risks beyond interpersonal relationships regarding interpersonal trust were covered.

Peripheral Route

From the evidence it is apparent that the Peripheral route is perceived as having dissimilar levels of influence, ranging from very strong to influential but not necessary. Although all the peripheral determinants were recognised as applicable in the CPG context, not all the peripheral determinants would apply to every relationship. In general, two ideas were expressed; the different relevance of the determinants according to particular respondents, and the different manners in which the route could be used.

Firstly, the perceptions of the determinants level of influence varied from one respondent to another. Hence, one determinant that was influential for one informant could have been of low relevance for another, even in the same CPG, indistinctly. Furthermore, in small specialist communities' capability planning areas, the peripheral route was asserted as highly influential, with most members with 'historical' knowledge of other individuals. In this regard, the fact that some CPG members 'keep stumbling across the same people along their careers', would facilitate the existence of a 'baseline' of trust, because of peripheral cues developed over many years.

Secondly, the peripheral route works in a different manner through the stakeholders base. The use of the peripheral route is seen as stronger amongst military members of the CPG, although in the respondents' view, that would not be a problem if a civilian were capable. Furthermore, there would be different interactions depending on the consideration of short versus long-term issues.

When dealing with short-term issues (the most common), interaction would be mainly between DE&S and either CAP or User or R&Ps representatives. Alternatively, the S&T member would be often part of the consideration of longer-term aspects.

Third party information is indistinctly signalled as the most influential determinant, always or frequently quite important or influential, in the peripheral route. Consistent with theory reviewed, the influence of this determinant was associated with initial stages of interpersonal relationships development amongst CPG members. Similarly, the process of pertinent information is seen as dependent on the perception of the receptor of the information. But this determinant is apparent as not always applying. For an isolated individual, it wouldn't play a role at all, being ignored.

History would be influential or prominent, and also occasionally seen as the peripheral determinant which exerts more influence in terms of determining interpersonal trust in the CPG. Although in some views History would be more relevant amongst military members, this determinant would play a role amongst military and civilians as well, because civilians with a background in a capability planning area tend to move around that capability planning area's environment, where individuals pick up with people who have worked together.

In a similar manner to Third Party Information, this determinant can play both ways; History could influence negatively initial attribution of interpersonal trust, when people involved have had negative dealings before.

In the absence of knowledge about other members, the Role determinant is used to establish initial interpersonal trust based on the function played by individuals in the organisation they belong to, 'You generally accept that he is going to be good at what he does. And you'll retain that decision until you prove the otherwise, basically.' In addition, there would be a 'baseline' of trust, that the 'system' wouldn't have put them in the position they are if they weren't good people and worthy of being there, the Rule determinant.

The Category determinant was also recognised as playing a part, as military ranks constitute organisational categories in a defence organisation. Although, the relevance of Category is not perceived as fundamental as the ability of being a 'good operator' in the MOD Main Building.

Disposition to trust was pointed out with different perceptions about its level of influence, ranging from not important to influential to some extent. Those diverse perceptions are consistent with the idea of disposition to trust seen as a personal characteristic and, as such, playing a part according to the innate personality of the individual CPG members.

Even though there were, sometimes, contradictory views about the relative relevance of the determinants operating through the Peripheral route, in general, there would be a tendency to maintain that History, Third party information and Role would be the most influential determinants, with Category and Rule playing an intermediate level of influence, over Disposition.

Central Route

Although perceived as being influential, highly influential, or in an isolated view the least relevant route. As a whole, the Central route appeared to be the most influential to build and maintain interpersonal trust in the CPG. Moreover, the success of the CPG is related to the central route, 'born out of familiarity, working closer with known people and you've worked with before.' In addition, the relevance of the central route is considered as reinforced by having previously known members (History) as well.

The relevance of personal knowledge towards the attribution of trust, and a developmental view, requiring time to work, of the central route was underpinned by expressions like 'through interaction, trustworthiness is assessed rapidly' and 'developing trust is very much more done based on experience, having face-to-face interaction'. Although, only over time will CPG members build 'complete' trust, which will be reinforced every time they meet. Furthermore, a year would be required to complete one cycle of activity (MOD general management cycle) which would permit the assessment of the interaction in the CPG context towards the formation of interpersonal trust.

The notion of trust fragility, where through the central route trust can be lost as well, was asserted; together with expressing an idea in the sense that when civilians are involved, or when working in a joint environment (as opposed to a single-service oriented or focused, 'niche', capability planning area), the central route gains more significance to build and maintain interpersonal trust.

From the evidence it is apparent that Ability, seen as if members 'can do the job well', is perceived as either an important determinant or the most influential determinant in the central route. For example, for a S&T representative, Ability would be related to the aptitude to deliver analysis and that is valid and robust. In addition, perception of ability would influence interpersonal trust formation increasingly through time.

Integrity, the second or the most relevant determinant in the central route, understood in part as if a member says something, about a given topic or issue, inside the CPG that is what he would say outside the CPG, adhering to only one declared position about a given topic or issue; or the certainty that the trustee will do what he says he will do. For example, for the S&T representative, Integrity will also be related to not necessarily give a wanted answer, give an answer based on the available evidence. Furthermore, according to the respondents, integrity's connotation has increased as a result of the influence of unforeseen financial constraints affecting capability planning activity, and defence as a whole, where 'the worst of some of the behaviours between the single services' have been brought back.

Ability and Integrity are initially presumed in a CPG context, and evidence about its absence would be critical in losing trust quickly. The perception of these determinants would be initially assumed, as being a requirement to reach the stages of the career that CPG members have reached to sit there, with people

that don't have ability or integrity 'almost selected out' without promotion or career advancement.

Although Benevolence is seen as a relevant interpersonal trust determinant in the CPG context, it was considered less influential than the other two determinants in the central route, 'flowing' from the other two determinants. In general, CPG members' ranked ability as the most relevant determinant in the central route, followed by integrity, with benevolence playing a minor or nil role.

Habitual Route

The most controversial route would be the Habitual route, which would be, according to the evidence, the route that is not always used in CPGs. There were differing views about its realisation in the CPGs, where some CPGs would utilise this route in many cases, sometimes, or they would not have the opportunity to get to use it because members change. Furthermore, in some CPGs the use of the habitual route is acknowledged, as 'really useful', 'highly influential', as opposed to others where if the habitual route is used, it would be 'very weak'. Additionally, the use of the habitual route would be stronger amongst military members of the CPG.

As expected, the habitual route would operate in CPGs based on extensive personal knowledge, through the process of reports, meetings, and success, resolving issues, i.e. being relevant to build interpersonal trust in the CPG, when it has advanced through the other two routes. Furthermore, for a number of respondents, the operation of the habitual route is seen as necessary for CPGs 'to work well'.

Although the majority of the views expressed about Social bonds regard them as pretty important, where socialising reinforces those bonds becoming a virtuous circle, opposite views were expressed about the relevance of Social bonds and Personal identification. On the one hand, these were seen as strong determinants, where previous knowledge developed in social bonds and personal identification, between CPG members, is perceived as a facilitating element for the attribution of interpersonal trust. Conversely, in other informants' view, they wouldn't play a big part and this route viability would be reliant on the members of the team's characteristics.

Furthermore, in building trust through the habitual route, Social bonds would be somehow related to History, and Personal identification would be based on personal knowledge, History and Social bonds. Finally, in general, Social bonds would be the most relevant determinant, followed by Personal identification. One respondent, in relation to the peripheral route, mentioned Habit marginally.

Relative relevance and relation between the routes

Regarding the relation between the routes, the three routes, including all the determinants, to build and maintain interpersonal trust were regarded as having different levels of influence and as being interconnected, crossed over or running in parallel through time, to some extent, in the CPG context. When considered over a period of time, all the routes have a valid function; although

day to day one route would be more important than another. Moreover, in consistency with the literature reviewed, perceptions about the interconnection and progression through the routes to form trust converged towards the idea that routes act somehow, not clearly defined for the respondents, in a sequential manner. The peripheral cues would underpin initial trust attribution; further, the use of the central and habitual routes supersedes the peripheral cues in building, maintaining and reinforcing interpersonal trust.

Although there was no agreement about the relative relevance of the routes to build and maintain interpersonal trust in the CPGs, some trends have been already depicted by the evidence. Firstly, the peripheral route was regarded as having a medium level of influence, lower than the central route, informing initially the attribution of trust. Secondly, the central route operating through interaction would have the major level of influence towards building trust, over the other routes. Finally, the habitual route was marginally mentioned with contradictory perceptions about its relevance and practicality in the CPG, although recognising its viability through virtual means. The habitual route would not replace determinants acting through the central route.

In general, when speaking about CPGs and the use of the routes, perception was that most of the CPGs reach either the peripheral, the central or the habitual route, where most of the CPGs would reach the central route, and some of them remain using only the peripheral route. Moreover, there were CPGs where different members perceived the group as developing interpersonal relationships through different routes. In any case, the fragile nature of trust is seen as 'a staircase you can go up and you can come down'.

In any case, interaction was deemed fundamental to achieve interpersonal trust in the CPG context, 'the social piece and interaction of equals that has happened at different levels'. Moreover, reaching the habitual route would be influenced by members' personalities and by the level of interaction that is needed across a particular CPG. Interaction is perceived as essential, to move on to the habitual route, and reduced interaction would be associated with not reaching the habitual route. Furthermore, small communities, meaning 'niche' capability planning areas with low interdependence with other capabilities, enclosed stakeholders base (single service instead of joint), or small/focused specialists communities would reach the habitual route earlier.

4.2.6.3 Output 3 Issues and Risks regarding interpersonal trust

Respondents were faced with questions about issues and risks regarding interpersonal trust, based on the elements discussed as interpersonal trust determinants previously examined in Output 2. It is clear from the evidence that respondents tend to concentrate on specific factors. However, evidence gathered about issues regarding interpersonal trust and risks beyond interpersonal relationships regarding interpersonal trust in the CPGs, was inconsistent at times because what in some CPGs was perceived as issues in another was a risk. Thus, respondents brought together some elements when explaining their views about issues and risks regarding interpersonal trust.

From the outset, the majority of the respondents recognised that there is a number of external factors, representing issues or risks, that could influence interpersonal trust in the CPG. In this regard, perception is that 'the biggest pressures are always going to be external' to the CPG. Furthermore, in a CPG Chair's view, risks in this respect are not managed 'in any manner'. All these elements would be set in an MOD's context that is 'quite compartmentalised and quite divisive at times'.

Issues

Rotation of military CPG members

Personnel turnover is one of the challenges that any team can face, affecting relations amongst team members and the distribution of knowledge within the team. In this regard, Levine et al suggest that a new member entering¹⁹⁸⁶ the team must acquire knowledge about his role and about other's roles and responsibilities. Although consequences of rotation can be positive, bringing in useful new knowledge, or negative, in the case of CPGs, it is perceived as having a negative connotation.

The perception about the relevance of permanency of individuals in the CPG to build and maintain interpersonal trust between the members is clear and do not reflect any further debate. The rate of rotation of the military members of the CPG changing every two or two and a half years impacts negatively the development of interpersonal relationships in the long term; consequently, making more difficult the use of the Habitual route to build and maintain interpersonal trust. Moreover, as a result of the dynamic of changing personnel, there would be a situation where, using the Tuckman & Jensen model of group's stages of development as reference, different members are going through different stages of development of the group. In addition, progress from one stage of development of the group to another stage would be slowed down because of rotation of people.

There is an effect of rotation in terms of people's knowledge and continuity in post. The high rate of rotation in posts for military officers is signalled as an element diminishing performance of the CPGs, where often, every second or third meeting, somebody has changed, and that would have quite a big impact on the performance the CPG 'could ever have'. Furthermore, the longer membership of civilians in the CPG, would encourage a different approach to risks because they would be more likely to stay in post when realising potential risks managed previously.

Differences between civilian and military CPG members

There would be differences between military and civilian CPG members, which would include 'diverse aspects in terms of trust, ability, knowledge, etc', 'posing challenges primarily in the Habitual route'. There would be a cultural difference where civil servants would take a more integrated perspective about interdependencies in capability planning activity, considering other tasks that they are aware of, where there could be some conflict, whereas the military behaviour might be 'just task orientated' or 'quite goal focused'. This would add

a positive element of balance to CPG activity, bringing in perspectives that are perceived as complementing each other, because civilians would probably consider other elements that maybe the military will disregard. Conversely, there would be a negative perception, amongst military personnel, about civil servants as being 'too much driven by bureaucratic aspects', and as 'sloppy [not diligent], intransigent'. Thus, it would be needed to 'overcome prejudices to perform better, breaking down tribal bits opening the flow of communication and reception to ideas as well'.

These differences were tangentially considered in Output 2, when addressing the Peripheral and Habitual route. The use of the peripheral route would be stronger amongst military members, although it would not be a problem if a civilian were capable. The use of the Habitual route would be stronger amongst military members.

Issues & Risks

Different priorities between organisational areas

Consistent with what is mentioned in the literature reviewed as tensions in cross-functional work, regarding allegiances to an individual's home organisation, perceptions of CPG members covered the existence of influences derived from different priorities coming from the single services as well as from other organisational areas integrated in the MUC, impacting CPG activity.

The CPG is seen as bringing together different views: a capability view, a single service view, whether a support or science view, a money view, etc; and understanding that structure, is seen by the CPG members as probably key to fulfil CPG's role. Although the existence of different priorities influencing individual's behaviour is acknowledged as an issue regarding interpersonal trust, 'a constant problem', it was depicted occasionally as a risk in this respect as well. In this regard, the existence of different priorities was illustrated by means of two main perspectives. One from programmes versus capability planning areas, or between different capability planning areas standpoint. And another, more relevant in the view of the respondents, considering the different organisational areas concurring to the CPG: Cap Sponsor, capability; DE&S, support; DSTL, research; and the FLCs, the single Services, amongst others.

Regarding the first standpoint, decisions in a capability planning area could neglect the impact on another capability planning area by working through the boundaries of the programmes themselves. People would take a decision in the context of one program area or one CPG, and they would, sort of ignore the assumptions, risks and issues that may have an impact on another CPG, 'there you will see behaviour where one group takes a decision without fully understanding the impact it has on the other'. In terms of capability, the question is what is the priority a CPG needs to deliver, because some elements in another capability area may impact the CPG's planning area. Because it is quite complex these priorities are done by platforms, not by capability areas, so there are discrete areas of capability, but every area of capability has

interdependencies, for example ISTAR, or it has communications, which need to be considered and covered.

In terms of different priorities between organisational areas, it encompasses more than the single services influence. Priorities could respond to needs of corporate (for instance DE&S or DSTL), or other allegiances as well, rather than to the needs of the MUC. The latter, especially when an individual is coming across broad capability planning areas with high interdependence with other capabilities, broad stakeholders base (joint instead of single service for example), small specialists communities, or 'niche' capability planning areas. Moreover, the idea of different priorities is spelled out pointing out mainly three organisational areas CAP Sponsor, DE&S and FLCs, where for example, 'the sponsor is worried about cost often... DE&S are very equipment focused'. These different organisational areas would have different motivations and priorities that sometimes lead to inefficiencies in working together. This situation of differing priorities would drive to inefficiencies across different capabilities, for example not covering all the DLoDs and, consequently providing a meaningless capability. This view is perceived in the context of the services, where different domains, having a major impact in the area would affect the interpersonal side.

These different priorities, are seen as the main issue or a very significant player, 'influencing hugely', in terms of interpersonal relationships. Although 'vested interests' could work both ways, in 'favour' or 'against' a service. For example, a member could tend to 'favour' is home service or, conversely, could be more 'stringent' to prevent being seen as favouring it. Moreover, the existence of different priorities and single service agendas is assumed as inherent, inevitable, to the CPGs context, where it would be accepted that everybody is working to different priorities for various reasons. Different organisational areas would have different priorities, pressures and agendas, 'this whole issue undermines the trust within the CPG'.

A further element would be 'constraints' that could come to the CPG from an individual's own organisational structure, and should be taken into account; otherwise, the incentive to consolidate what has been committed can weaken. For example, a CPG member has to consider what is acceptable and possible for his organisation of origin, representing a realistic more than aspirational position in the CPG. Moreover, this consideration would entail the individual's capabilities as well, because there is a limit to what people can really follow through.

Furthermore, these influences would affect in a different manner according to the relevance of the decision being made 'So, is an element of working on sharing information and an element of behaviour under stress that we can probably work on'. In this regard, interpersonal trust is perceived as an element that helps to surmount the diverging priorities of CPG members, facilitating to work around those influences. From this perspective, what would be seen as relevant to overcome organisational rivalries and to foster trust, would be 'to understand what is actually required, what is policy compliant, and to understand and follow the strategic position'.

Single service influence

Single service agendas are perceived as an issue affecting interpersonal trust between CPG members. Single service influence is seen as a great issue, 'because is really divisive', inherent to any joint environment, joint project, or even a joint job; present in CPGs. Naturally members have an allegiance to their own services. Single service influence was illustrated as an inevitable condition, 'a fact of service life'. These interests would not be necessarily aligned with defence overall benefit in terms of capability planning, standing faced potentially what is best for defence and the individual's chain of command opinion. Moreover, these behaviours are not always clearly evident, 'In joint areas... Where people are not playing in a truly joint fashion... They are, or you believe they are, operating to another authority'. In addition, it is recognised the existence of individual agendas, where irrespective of the fact that individuals work collectively, they all have their own agendas, and they are all looking to enable their agendas to be achieved; moreover different priorities can also emerge from individual perceptions, where one member's priority might be completely different from someone else's priority.

The influence of the single services could come from the hierarchy in a particular service, denominating 'vital ground', 'platforms that we want to keep', 'things that we will not lose', and then that comes from a single service chief and the individual 'would be an advocate for those types of capabilities'. In addition, single service influence could be exerted through dominance in the staff base of one capability area by one of the services, endorsing what the hierarchy in a particular service says, 'without perhaps stepping back and thinking in the wider context what is the right thing to do'; or in another case, when a number of posts in a niche capability area are held by people from one service. In the latter case, if there were members from different services or with a higher rate of change in CPG membership an individual would be more 'cautious'.

Perceived as the biggest issue or risk, single service influence would be apparent when one individual participates in the production of a piece of work that 'may be seen as disadvantaging his service', instead of support the course of action that he has 'been told to drive forward'. Moreover, according to the respondents, an individual should be certain that the system would not disadvantage him in his career when making decisions that 'go against what is perceived to be the way they should be voting', pursuing the overall defence benefit. One example of single service influence was given about a CPG member who had to fulfil a role, where the course of action associated with providing better capability, was perceived as detrimental for his service, 'being green, but wearing a blue hat'. Although the member might have been naturally favouring solutions involving his own service that was not the case. It is not known 'at what cost to his career'. In addition, another perspective depicted was that when a capability area wants to program a plan, the CPG members look for the best capabilities they can for the money they have got. In this situation, a respondent argued that 'I understand that and I am going to push them, because I know they've got money elsewhere in other areas of capability. I will

push them as hard as I can ... but I understand they've got a constraint and I won't get it all'.

In a minority view, in terms of CPG activity, single service influence is acknowledged as an influential element distorting occasionally, 'where you get discussions that are clearly being driven from a service agenda, rather than focusing on the activity that CPG members are there to manage'.

Another aspect was a relatively variable importance that could be paid by the services to a CPG's capability planning area. This situation would drive to changing positions sustained by CPG members regarding matters considered. As a consequence, this situation would impose difficulties in terms of absence of clear priorities and consistency to perform CPG activity. Furthermore, in the view of one respondent, this difficulty would be exacerbated in the case of the Army, because it would be very different to the other two armed services, culturally much more different to the other two services, and it would have very different priorities and processes. An additional aspect raised was an alleged lack of importance of some CPG's activities from the FLCs perspective, which would be reflected in low attendance to CPG meetings by members, which are replaced by delegates; or members attending to meetings without the adequate preparation for them. This situation was attributed in small capability areas, to the nature of the capability area, rather than to the CPG members.

Another facet would be the availability of the resource time to perform CPG related duties. The MoD seems to be an organisation where 'everybody is very busy'. Specially at very senior level, and therefore, 'whether it is because they don't see it as important, or less important than what they are doing, or whatever the reason is, is very rare to get all CPG members sitting around the table'. This element introduces further difficulties to decisions made at CPG meetings, increased by the low periodicity of the meetings, because if a decision is made, and a member who wasn't present does not like it, he will come back in later and cause 'a lot of grief'.

In summary, the issue or risk emerging from different priorities coming from different organisational areas, and collective or individual perspectives brought into the CPG, would be composed of elements coming from the different views brought to the CPG. In this regard, the struggle between different priorities is understood as an expression of interests to gain financial resources, and direct them according to particular priorities, in a dynamic where 'different people get asked different questions, probably in different ways'. This can then lead to different members pulling in different ways. So, there will be 'lack of trust' between the CPG members, where one fraction of the CPG is pulling the capability to another part, for instance taking the money from one program which might be somebody's pet program and move it somewhere else, or even delete it all. These different priorities affect interpersonal trust between CPG members, and increase the difficulty to operationalise priorities in term of capabilities. A broad majority of the respondents, depicted single service agendas as the most influential element.

Financial situation

It is commonly accepted that even the most well designed organisational teams or groups cannot always accomplish their objectives if they can't access critical resources. CPGs are the construct where cross-functional integration of skills and capabilities across the MUC is intended to balance defence policy aspirations and available resources. In this regard, the stringent financial situation faced by the UK's MOD through the period when this research was prepared and conducted was reflected in that constrained financial resources was signalled indistinctly as an issue or a risk regarding interpersonal trust in the CPGs. In particular, individuals ranked the influence of the financial situation variedly; from that it would represent a risk to interpersonal trust to some extent, a relevant factor influencing trust, a permanent consideration which drives to devise 'options' to enhance capability or save costs, to that everything CPGs do is driven by the financial situation.

In general, scarcity of resources is regarded as a factor, where financial constraints would be setting tight saving objectives on CPGs as decisions being considered have impact for example on the services, where they have an effect on training, equipment, etc; impacting interpersonal trust at the working level 'Money always get in the way'. Moreover, the scarcity of financial resources is seen as an acknowledged issue limiting the achievement of a prioritised and resourced sensible CMP, where there is not enough money to deliver a capability fit for purpose, and compromises have to be made. Furthermore, from the respondents' perceptions the centre and capability staffs are driven by resource issues, they attempt to save money; and it would be quite clear that they've been given challenges and targets. As an example, of the acute measures taken in defence, it was mentioned unforeseen harsh reductions in financial resources to a particular project, for example when the CPG is putting towards a solution and then from the side they get that the budget is going to be cut by 50%. Thus, the negative effects of unforeseen resources cuts, and the subsequent adjusting measures, influence negatively interpersonal trust, when resources allocated are reduced, and then requirements have to be re-scoped to deliver some form of capability with fewer resources.

Under the economic situation present when this research was conducted, this element appears to be an issue related to the allocation of priorities between the different capability areas, and between different capability planning areas into a sole capability area. Moreover, this situation would be aggravated by single service agendas, 'the more those caps are put in, the more strain is put on the individual agendas within the CPG, and in particular, the single service agendas'. In addition, it would be also aggravated by what would be perceived as a lack of priorities, where it is not known what the priorities are in the different areas of capability, that could be perceived as 'a little bit of everything', without clarity about what capabilities give up to deliver what has to be delivered within resources. In this regard, lack of priorities at inter-capability area level, with a continuously evolving financial situation could undermine interpersonal trust.

The dilemmatic nature of financial resources issues is enunciated as accepted issues, rather than issues about what anything could be done, unless that capability management is revisited, and 'just buy off the shelf, without consideration of political industrial impact of who supply'. In that case, a lot of the equipment needed could be bought rather than developing bespoke equipment.

Share & expose information

One of the VTs challenges has to do with the willingness to share knowledge confidential or sensitive in nature. Moreover, a critical resource to achieve the goals of a CPG is information. Sharing and exposing information, as in 'revealing your hand', is perceived as a risk related to the existence of different priorities between CPG members, where 'the different priorities will determine what can be exposed and what cannot'. Withholding information is also perceived as a risk, when it is considered in the context of the negative influence that it could have on the perception about an individual's credibility (ability plus integrity).

Furthermore, some respondents perceived withholding information as an issue or as a main issue, 'one of the single most damaging things' regarding interpersonal trust, where interpersonal trust stands as a 'fundamental factor' for the functioning of VTs. In addition, withholding information is seen as an issue related to perceived integrity when passing information to another CPG member, where members would be averse to pass some information to someone that they aren't sure would use it correctly; and also tangentially related to benevolence.

It is an accepted issue that every area of defence is under certain amount of pressure, where elements of withholding information between different members 'do occur, but tends not to be too bad when getting into bigger decisions'. Nonetheless, opposite perceptions were found regarding information withholding in capability planning activity. In a minority view, this element was neglected as an issue because CPGs would have always information necessary to carry out their work. In this perspective, the 'weakness' about managing information would arise from the poor quality of the information management systems, not due to people deliberately withholding information. In addition, if a CPG belongs to a small community, its members might tend to be stovepiped from a defence perspective.

Initially CPG members establish relationships, identifying 'who the people are', knowing who is trustworthy in the sense that if they told somebody something which should be close hold, shouldn't go any further. Withholding information is understood as the degree to which, information is declared late, and people aren't properly consulted; as opposed to when people are open. It could cover information of different nature, where people don't declare things, hide money or put money away. It is perceived as a manner to protect an activity or resource to be withdrawn, in a behaviour perceived as almost encouraged by the system, where avoid revealing an individual's 'full hand', or avoid revealing the full extent of a project, may help to protect it. In this regard, one respondent

declared to have seen that in many areas, information 'has been used against, potentially against, those who provide it'. One example of the reasons for withholding some level of information would be to avoid exposing too widely the amount of risk available in a support budget, because, if it were exposed would be taken. This example was given by a DE&S representative, being defensive against the R&Ps people, worried about what the centre could do, where individuals tend to keep information quite close hold.

Furthermore, there would be people who manage much more information than others, thus having a clearer perspective. This would be a risk between the centre, the MOD, where people know 'what's going on' much more than other people do; and other people who are not been given very much information are probably unaware in quite much detail of the financial situation, for example. The possibility to share information in a more restricted format is seen as an element allowing the virtual CPG to work, where a member don't have to pass incriminating information to everyone. Therefore, people that 'wouldn't need to know can be left out, until you are in a position to have it tested in a wider context.' Conversely, there would be also situations where the CPG construct could undermine decision-making, as the CPG would be such an inclusive arrangement meaning that members struggle, at times, to make decisions, which means they tend to do discussions in a more restrictive format, outside of the CPG.

Regarding the flow of information, there would be a tendency to share information bilaterally, thus 'often the large group doesn't see, and get surprised by things'. This situation would have an impact, as it is necessary to manage the 'right' management information across the different capability areas 'unless you've got the right management information, unless the eleven different capability areas are working to the same kind of baseline...'. That management information required would be provided by the Project Support Function (PSF), 'The VT works well to bring the wider team together, but you need a core there, who are responsible for that capability, and at the moment that is PSF in DE&S'. However, the flow of information would be compromised because the resources are stretched very thinly over many different capability areas. Also, that quality of the management information that is available affects the quality of the planning, and the constant struggle to obtain information plays against the formation of interpersonal trust.

In any case, preserving an individual's own credibility would be more important than any other potential short-term gain by 'giving misleading information or covering over a possible shortfalls or problems' in a given post. Personal credibility would be too important to sacrifice on one particular issue, particularly considering that people involved in capability move around frequently through the periphery of particular areas. In this regard, behaviours where individuals are perceived by the group as not being open, or pursuing other interest, risk to be 'ostracised', not being accepted as part of the group anymore, 'not a trusted part of the group'. Thus, credibility would be more important than a particular appointment time.

To sum up, restrictions posed by individuals to the flow of information could affect interpersonal trust in the CPG. In addition, there would be deficiencies in basic processes of information management that make difficult to find relevant data 'where we put stuff or we do'. Nonetheless, interpersonal trust would facilitate the flow of information necessary to accomplish CPG goals.

Risks

Promotion

The central organisational dilemma revolves around the idea of reconciliation between individual's aspirations and needs, and organisational purposes. In the capability planning context, this means that there would be challenges between what is best for defence as a whole; what is best for a particular service, organisation, organisational area, particular discipline, capability area, or programme; and what is best for an individual CPG member. Mentioned previously, when analysing CPG members' views about interpersonal relationships between CPG members, the impact of an individual's actions in a CPG, towards his career, is mentioned as a factor that can influence CPG members' behaviour regarding interpersonal trust.

The reporting chain was mentioned by the majority of the subjects as influential to the behaviour of CPG members, in particular in-service personnel, because the reporting chain decides whether they get promoted or not. The Confidential Report System was regarded as very important to military personnel where the most important thing would be the line manager, the reporting chain, 'you need write them up a positive report, the civil service is their bonus, the military it's their promotion'. In practical terms, individuals would not like 'to irritate' the person who writes his report, or the person whose writes his either'. Furthermore, in the CAP areas there would be no latitude to not be, 'afraid' of an individual's career, on what he is saying, 'if you don't do a good job then you won't get promoted. Everyone is promotion centric'. In this regard, the evaluation system would encourage pursuing single service agendas, 'You've got to follow the single service agenda. Nobody gets promoted by the joint system because there isn't one, is a single service system'. In this environment, there would be 'a certain amount of trust between everybody, but only to a certain extent', and a perception about a compromise because of the 'pressures each other are under'. This situation could drive controversial behaviour in the CPG, where an individual's annual appraisal might say he did really very well because he followed what the line manager wanted him to do. But, it could have been entirely in opposite direction to where the group wanted to go. A consideration in this respect would be the interest of the individual's chain of command, or how driven the members of the chain are by the outcomes of the CPG; and to what extent those outcomes would be seen as part of the individual's roles and responsibilities within his overall work, by his chain of command.

In a minority view, the idea that this career aspect influences interpersonal relationships between CPG members was occasionally rejected, because some members of the MoD or CPGs are 'benevolent in a way that they are not in their

own self-promotion', they would pursue, 'making defence the best it can be'. In this view, most people would act to maximise their contribution and safeguard the interest of the organisation they represent. Furthermore, a second minority view considers that the prospect for further promotion would be a 'secondary consideration', because behaviour in a CPG would not be influenced by how a member's career might be affected. Alternatively, CPG activity would play a minor part in overall CPG members' performance evaluation; as such, it would not make an 'awful lot of difference'. This risk is perceived as potentially playing a part at higher levels, above CPG. But, in the CPG, being a small part of the wider piece of work of a individual CPG member, it would be unlikely.

An additional element would be that the consideration of capability planning decisions impacting in the long term would not be reflected positively in the course of a military officer's posting. That is, having set solid foundations with something that might mature five, ten years downstream, might not be seen as 'cutting it'. Consequently, there would be an incentive for a military member of the CPG to make note of his posting, by means of making a relevant decision; although the decision long-term consequences could not be necessarily well understood yet. Moreover, a second additional element would be when an individual could be looking for some sort of sponsorship from a given authority level, 'a power of patronage', from a person that in the future, presumably 'is going to be in a position of authority... that it's going payback'.

An additional consideration regarding possible further promotion, would be that this element would influence in different ways people with different seniority, with lower impact in more senior personnel and higher impact in more junior personnel, where individuals would be somewhat more guarded in what they are willing to say and how they are willing to challenge. On the one hand, in small capability area specialists' communities, more junior individuals are conscious that is likely that the inter-equals relationship in a CPG can change in the future, for a superior-subordinate relationship. On the other hand, for more senior personnel, when members had already reached their 'career ceiling', they wouldn't have to worry about that perception from senior people so much. In this case, the influence of possible promotion would be very low, because 'as long as individuals do their job, in a way that is competent and clearly in the best interest of defence, there would be very few risks to the individual and people around him'. In this case, the lack of prospects for further promotion would allow big independence 'enormous freedom' to pursue CPG role integrally, instead of being concerned about potential negatives outcomes for the individual, which is something perceived as otherwise somehow limited 'you can say what is actually true, rather what you think the boss wants to hear. Which of course we should do always anyway, but not everyone does'. Anecdotally, a respondent who elaborated about this idea argued that before reaching his career ceiling a CPG member would be in a different position, more careful about this risk.

In addition, prospects for further promotion would influence CPG activity, particularly if an individual is close to change appointment, where, maybe he is 'coasting' [just doing the minimum] because he is thinking on his next job or

actually when he would have taken a bold decision that's better not to go further because it can affect that next appointment.

In summary, the prospect of further promotion, through the assessment of an individual's reporting chain could have influence in CPG members' behaviours, somehow 'limiting' the freedom of the individuals to do their job in the best interest of defence as a whole. This element would affect interpersonal trust in the CPG, where the members would perceive the existence of this influence in members' behaviours. Although seniority could act as a moderating element, particularly when an individual has reached his career ceiling. An example would be when a CPG member is arguing, just defying and being an advocate for what is seen as 'another' service's capability area, which might be the best one. In this case, the service to which the member belongs, 'lose' a capability that the CPG member's Chief [of one of the services] wants to keep, and the chief would say 'who was involved in the planning of that decision?'

4.2.6.4 Results and conclusion

Initially, the analysis of the evidence pertaining to each case was grouped around five clusters. Subsequently, this cross-case analysis and discussion was performed, integrating the evidence emerging around three lines of enquiry stated in 3.5.1.1 'The enquiry', named outputs 1 to 3 at this stage. These outputs were intended to facilitate the understanding of the findings in the most sensible manner and to underpin the identification of target areas, and the further elaboration of the survey questionnaire to proceed with Phase II of the fieldwork, as discussed in Chapter 3.

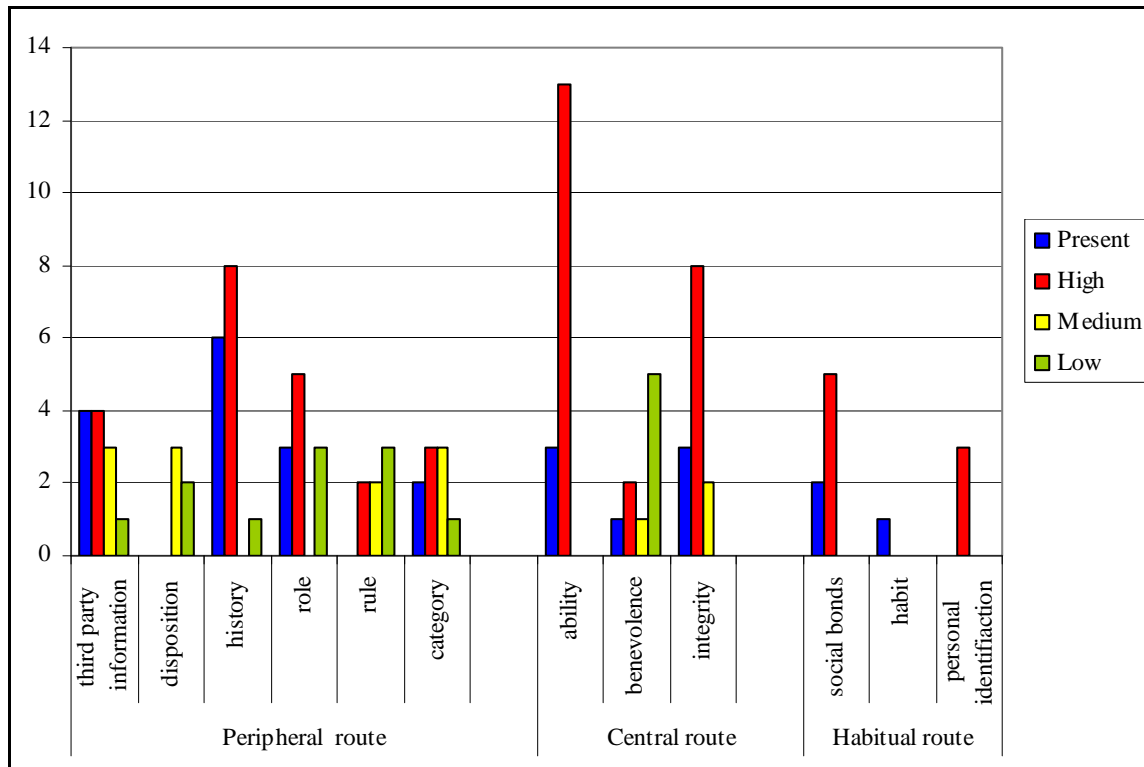
Output 1: Nature of the interpersonal relationships

Regarding perceptions about interpersonal relationships, there were mixed views. The findings across CPGs show that a number of views concentrate on the necessity of an environment for open, but guarded discussion. In this regard, the existence of smaller communities, as opposed to wider communities would facilitate interaction, thus smoothing or speeding up the process of interpersonal trust attribution in some CPGs. In addition, some challenges to interpersonal relationships between CPG members were depicted: bringing and integrating members together; communicating and coordinating work; achieving balance between co-located and virtual work; to identify and implement adequate IT tools to undertake capability planning activity; and the existence of influence posed by the stage of the job-cycle where individuals are.

Output 2: Interpersonal trust determinants

In respect of the interpersonal trust determinants in the CPG, interviewees answered in different manners. A summary of the determinants identified and its relevance (coded as determinant present without rating relevance; and high, medium or low relevance), according to the respondents' perceptions, is presented in Figure 4-5.

Figure 4-5 Interpersonal trust determinants in the CPGs



Source: Author

From the evidence it is apparent that the Peripheral route is perceived having dissimilar levels of influence, ranging from very strong to influential but not necessary. Although all the peripheral determinants suggested were recognised as applicable in the CPG context, not all the peripheral determinants would apply to every relationship. In general, individual respondents perceived different relevance of the determinants. The evidence about this route suggests that History, Third party information and Role are the most influential determinants, with Category and Rule playing an intermediate level of influence, over Disposition.

Although perceived as being influential, highly influential, or in an isolated view the least relevant route; as a whole, the Central route appeared to be the most influential to build and maintain interpersonal trust in the CPG. Moreover, the success of the CPG is related to the central route, 'born out of familiarity, working closer with known people and you've worked with before.' Regarding the relevance of the determinants, ability was depicted as the most influential determinant followed by integrity and finally benevolence.

According to the evidence, the Habitual route would not be always used in CPGs. There were differing views about its realisation in the CPG, where some CPGs would use this route in many cases, sometimes, or they would not have the opportunity to use it because members change. In some CPGs the use of the habitual route is recognized, as 'really useful', 'highly influential', as opposed to others where if the habitual route is used, it would be 'very weak'.

Furthermore, the use of the habitual route would be stronger between military members of the CPG. As expected, the habitual route would operate in CPGs based on extensive personal knowledge, being apparent when it has advanced through the other two routes.

In general, according to the respondents, CPGs reach either the peripheral, the central or the habitual route, where most of the CPGs reach the central route, and some of them remain using only the peripheral route. From the evidence, it was confirmed that the adaptation of the integrated model of interpersonal trust, expanding the model suggested by Hung et al, embraces the particular dynamic of interpersonal trust in the context under consideration. Thus, the three routes to interpersonal trust are used, and the determinants operating inside the routes correspond to those suggested by Hung et al. In addition, 'History', 'Social bonds' and 'Personal identification' were included as determinants of interpersonal trust in the CPGs.

Output 3: Issues and risks regarding interpersonal trust

An ample majority of the respondents recognised that there are a number of external factors, representing issues or risks that could influence interpersonal trust in the CPG. In this regard, perception is that 'the biggest pressures are always going to be external' to the CPG.

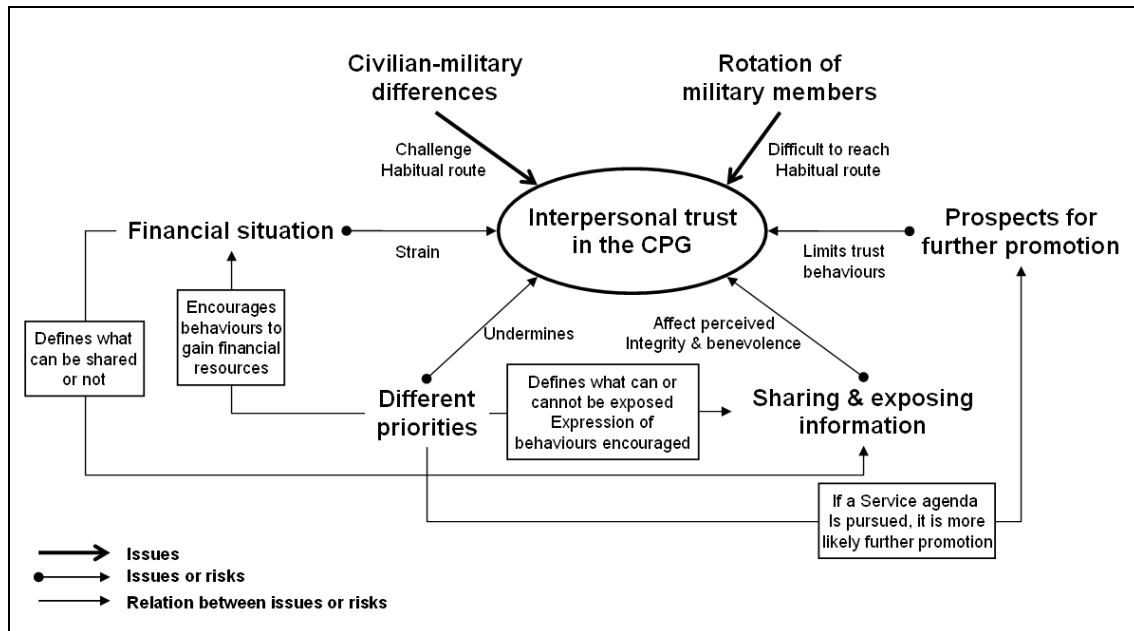
Consistent with the views expressed regarding interpersonal trust determinants, the respondents illustrated some issues regarding interpersonal trust (Figure 4-6). They had to do with differences between military and civilian members of the CPG, and the high rate of rotation of military members. In addition, a number of elements were depicted indistinctively as issues or risks by different members in different CPGs: different priorities between organisational areas, sharing and exposing information, prospects for promotion, and scarce financial resources. There can be different reasons to pursue organisational objectives through cross-functional teams. However, this kind of team can bring some limitations. In this regard, the membership of the team has to be balanced against the 'home' internal organisation, and the fact that information and knowledge has to flow through different internal organisations overcoming functional boundaries has to be taken into account.

In the model of interpersonal trust in VTs adapted in this research, risk plays a role in the behavioural manifestation of trust, making room for the consideration of the context in which capability planning, is carried out. Perceived risks, and the consequent positive or negative outcomes that might occur, are deemed to be critical for a specific action to be taken or not.

When asked about risks perceived beyond interpersonal relationships, which could influence the trust behaviour of CPG members, the organisational dilemma in the design and study of organisations, regarding the conciliation of individual's and organisation's objectives is somehow reflected in what is mentioned as the prospects for promotion. This element is perceived as influencing interpersonal relationships and trust. Furthermore, the cross-functional nature of CPGs is reflected in the odds of conflict between different

priorities in terms of suborganisations that include single service agendas, and risks related to vulnerabilities of sharing and exposing sensitive information.

Figure 4-6 Issues and Risks Regarding Interpersonal trust



Source: Author

When respondents were faced with questions about issues and risks regarding interpersonal trust, it is clear from the evidence that respondents tend to concentrate on specific factors (Figure 4-6). However, evidence gathered about issues regarding interpersonal trust and risks beyond interpersonal relationships regarding interpersonal trust in the CPGs, was inconsistent at times because what in some CPGs was perceived as an issue in another was a risk. Thus, respondents brought together some elements when explaining their views about issues and risks regarding interpersonal trust, and how these elements interrelate.

Conclusion

The general perception about the nature of interpersonal relationships in the context considered was depicted, together with the pertinent challenges perceived by CPG members.

The adapted model proposed for the context under consideration was confirmed, advancing the study of interpersonal trust determinants in the particular scene where this study is set.

The evidence suggests that different CPGs, and certainly different members in a CPG, develop trust in different manners. In this regard, the context seems to play a highly influential role, as it was portrayed by the respondents, depicting a number of elements identified as issues or risks that need to be addressed.

It is not possible to conclude that these are the only issues or risks in capability planning activity. Indeed, there must be others. However, the purpose of this research was to gather evidence about issues and risks perceived as influencing or having the potential to influence interpersonal trust in the CPG context. In this regard, not every issue or risk had to be commented upon if not influencing interpersonal trust. Furthermore, the omission of comments on a certain topic does not mean that there are no more issues and risks regarding capability planning activity, again the purpose of this research was to find elements influencing or likely to influence interpersonal trust in the CPGs.

4.3 Phase II, Survey questionnaire

4.3.1 Introduction

As discussed in Chapter 3 'Research methodology', a set of survey questionnaires were addressed to the whole population of CPGs, with the purpose of gathering confirming or more detailed evidence regarding the findings from Phase I, the first wave of data collection, and to develop when applicable, relevant elements emerging from this Phase. The intent in following this approach was to attain a comprehensive picture of the interpersonal trust determinants and the pertinent risks and issues in the CPGs, as a result of the analysis of the members responses, in order to develop a critically analytical perspective.

4.3.2 Survey questionnaire

The objective of the survey was to gather information about the interpersonal trust determinants in the context of military capability planning work in VTs, particularly focused on three main elements:

- Influential elements regarding interpersonal trust in CPGs
- Interpersonal trust determinants in CPGs
- Issues and risks regarding interpersonal trust in CPGs

The questionnaire (Appendix D Survey Questionnaire) was organised around four successive sections. Initially, it gathered general information about the respondents and their CPG activity. Then, it concentrated on the consideration of general perceptions related to work in the CPGs. Subsequently, interpersonal trust determinants in these VTs were investigated. Finally, issues and risks regarding interpersonal trust in the CPGs were surveyed. The sections of the questionnaire were:

Section 1: Demographics

Section 2: Target area 1: Influential elements regarding interpersonal trust in CPGs

Section 3: Target area 2: Interpersonal trust determinants in CPGs

Section 4: Target area 3: Issues and risks regarding interpersonal trust in CPGs

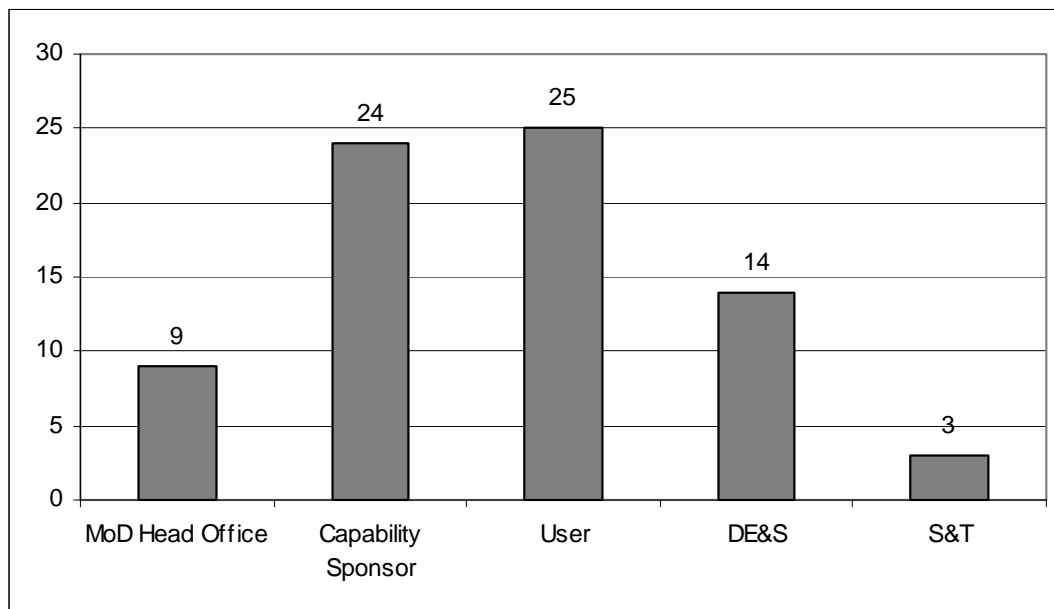
The Survey Questionnaire with the answers consolidated is attached in Appendix E. In the following sections, the findings are discussed and examined supported by graphic representations when deemed useful to achieve a better understanding of the evidence gathered.

4.3.3 Demographics

This subsection characterises the participants and the degree of ‘virtualness’ of the CPGs. With this end, in this subsection, a number of graphic representations underpin the examination of the findings.

The respondents were 79% (57) military and 21% (15) civilians. The MUC’s organisations represented by them in the CPGs followed the distribution shown in Figure 4-7:

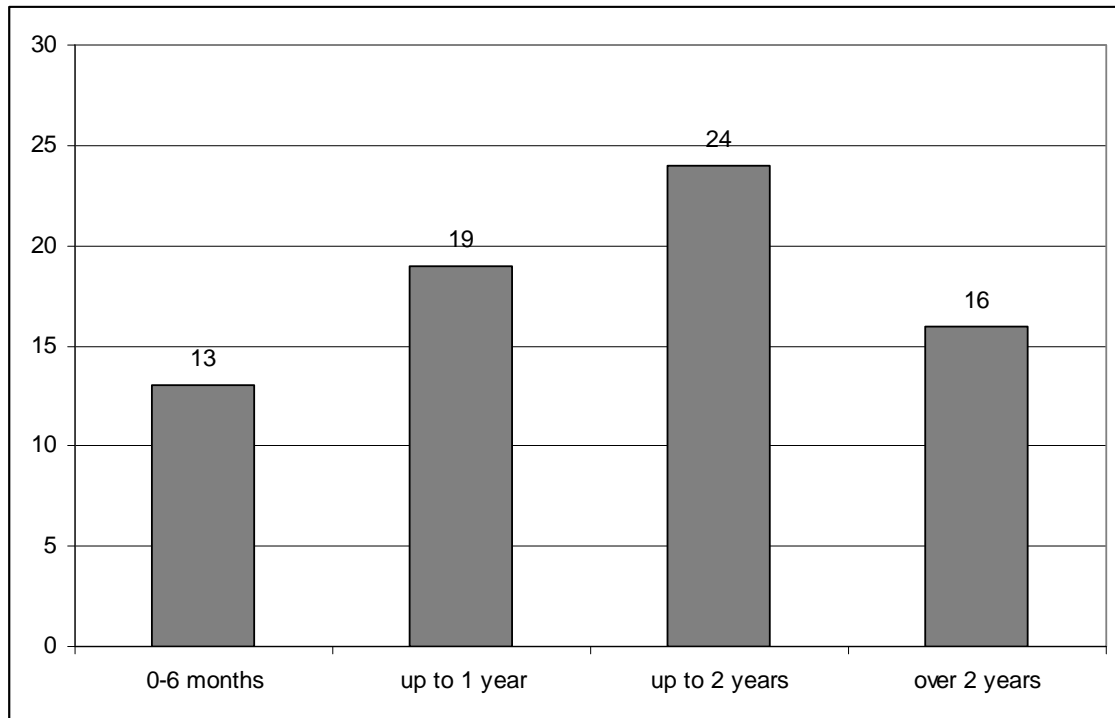
Figure 4-7 Respondents’ home organisations



Source: Survey questionnaire, Appendix E

The time in post as CPG members of the respondents, which ranged between 2 and 62 months, and averaged 18 months, is shown in the Figure 4-8, sorted in four categories (0-6 months; over six months, up to a year; over a year, up to two years; and over two years).

Figure 4-8 Respondents' time appointed as CPG member



Source: Survey questionnaire, Appendix E

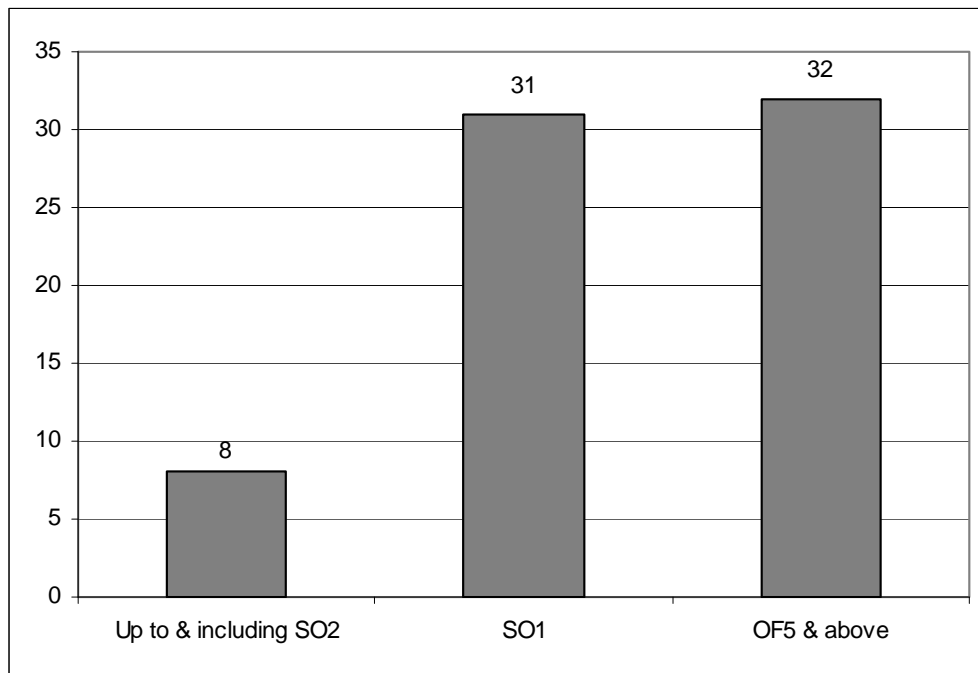
The figure 4-8 shows that 55% (40) of the respondents have been more than a year appointed as CPG members. Also, 18% (13) of the respondents have been in post for 6 months or less.

The rank or grade of the respondents is shown in Figure 4-9, with most of them, 86%, being SO1s and above. This figure is split between SO1¹ (31, 44%) and OF5 and above (32, 45%). The remaining 14% were up to SO2².

¹ SO1 is Commander, Lieutenant Colonel and Wing Commander; for the Navy, Army and Air Force respectively; or Civil Servant grade equivalent.

² SO2 is Lieutenant Commander, Major and Squadron Leader respectively, or grade equivalent

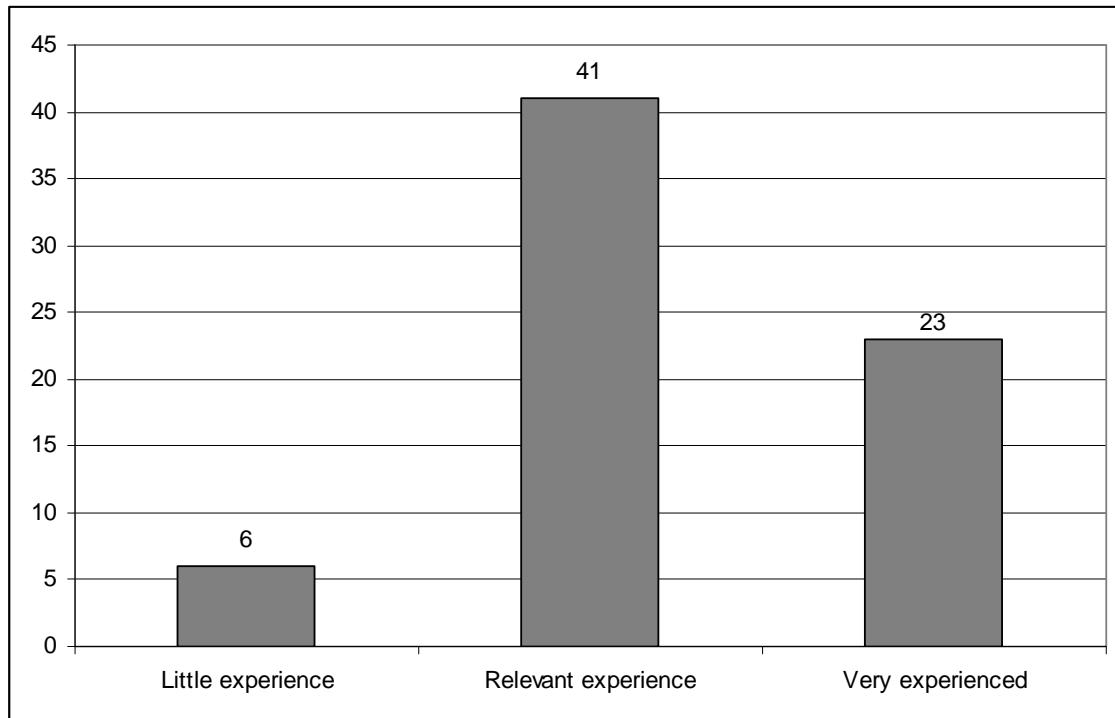
Figure 4-9 Respondents' Grade or Rank



Source: Survey questionnaire, Appendix E

When asked about their familiarity with 'virtual' work, described as non co-located activity: use of telephone, email, VTC, and use of the team (CPG) Intranet's site; the majority of the respondents (64, 91%), as shown in Figure 4-10, declared to have relevant experience or to be very experienced.

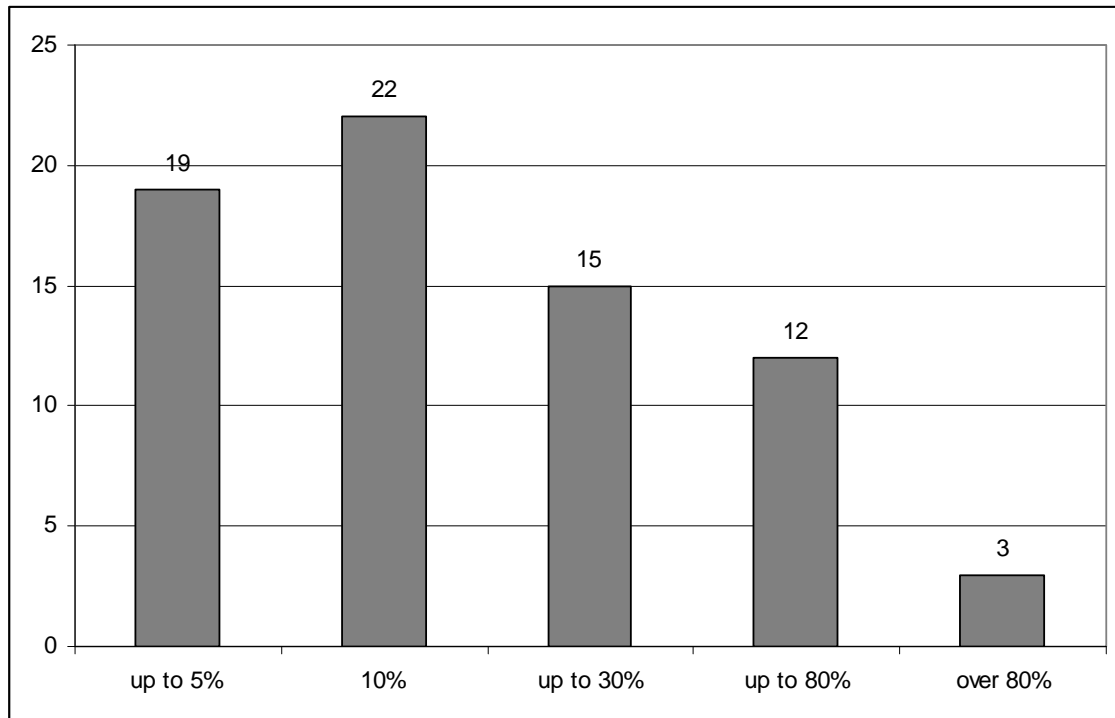
Figure 4-10 Respondents' familiarity with 'virtual' work



Source: Survey questionnaire, Appendix E

Regarding the percentage of the respondents' work time devoted to CPG activity, their answers ranged from 1% to 100%, with an average of 22.5%, following the distribution presented in Figure 4-11, sorted in four categories (up to 5%; 10%; over 10%, up to 30%; over 30%, up to 80%; and over 80%).

Figure 4-11 Respondents' work time devoted to CPG activity



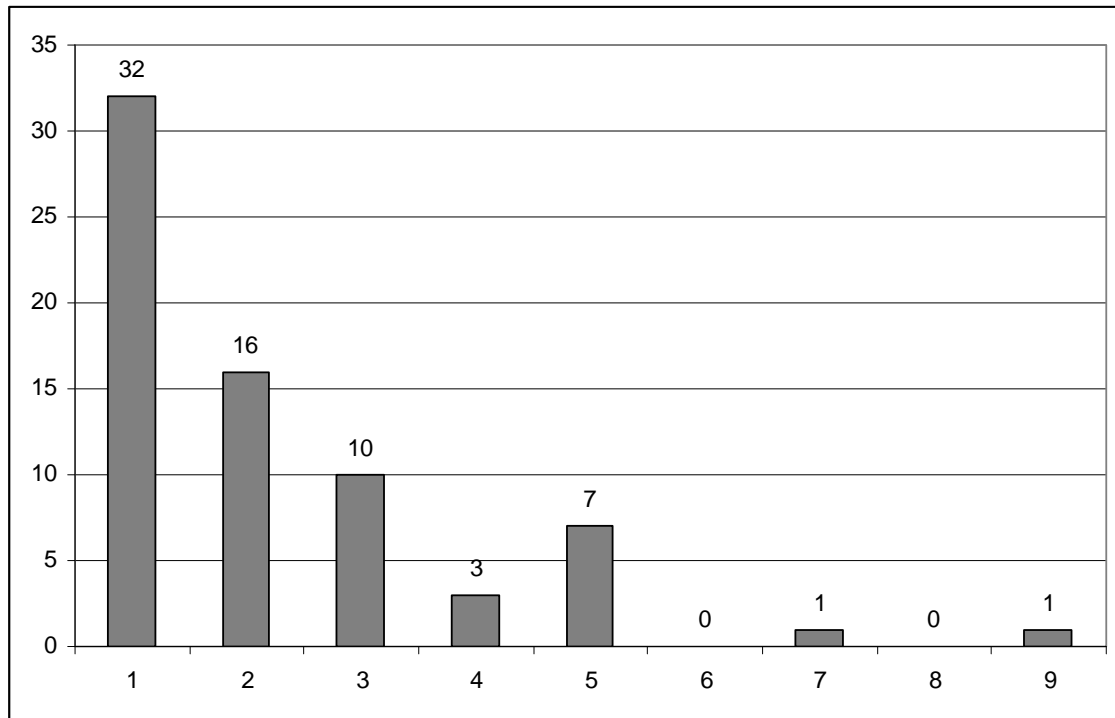
Source: Survey questionnaire, Appendix E

Figure 4-11 shows that the majority of the respondents (41 people, 58%) devote 10% or less of their work time to CPG activity. Adding up, 79% (56) of them devote 30% of their time or less. In addition, for 18% of the respondents (13), figure not represented in Figure 4-11, it represented 50% or more of their work time.

Subsequently, the working time devoted to CPG activity was divided into group and individual tasks; and virtual versus face-to-face work. The time devoted to work as member of a CPG, as declared by the respondents, involved an average of 48.5% dedicated to group tasks and a 51.5% to individual tasks. In addition, 51% of time devoted to CPG activity would be virtual (non co-located: telephone, email, VTC, use of the team site), versus a 49% of time committed to face-to-face work.

The number of CPGs attended by the respondents is represented in Figure 4-12. The number of CPG memberships ranged from one to nine, with an average of 2.2 CPGs.

Figure 4-12 Respondents' number of CPG membership

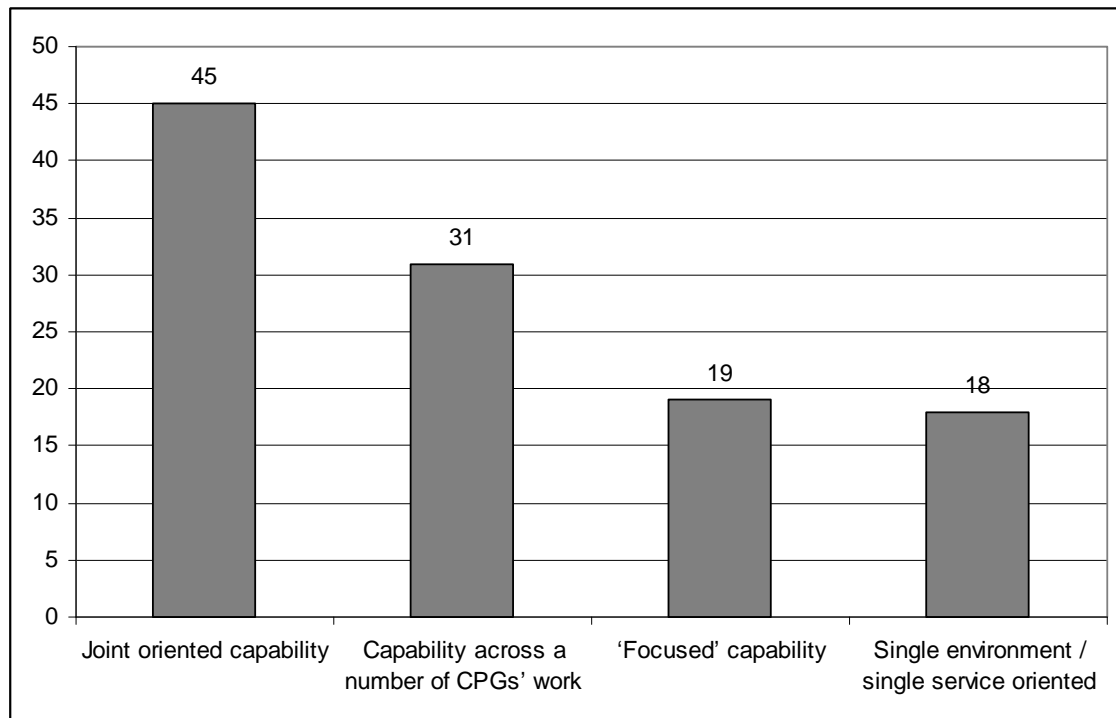


Source: Survey questionnaire, Appendix E

The majority of the respondents, 68%, worked in one (45%) or two (23%) CPGs. The remaining were scattered between three and five memberships, with one respondent belonging to seven and another to nine CPGs.

Finally, the number of respondents who portrayed their capability planning areas as 'joint oriented' (40%), 'focused' (27%), 'single environment / single service oriented' (17%), or 'across a number of CPG's work' (16%); are seen on Figure 4-13. No additional correlation was found amongst the descriptors offered to the respondents regarding the capability planning areas that their CPGs covered. The only relation found was between 'Joint oriented capability' and 'Capability across a number of CPG's work' which reached an 11% (8 out of 72). All of the remaining answers were indistinct in respect of other possible combinations of the four alternatives available.

Figure 4-13 Respondents' general description of their CPG's capability planning area



Source: Survey questionnaire, Appendix E

4.3.4 Target area 1: Influential elements regarding interpersonal trust in CPGs

Section 2 of the questionnaire, Influential elements, gathered background information intended to contextualise data collected about interpersonal trust in CPGs. This information was sought to underpin a deeper understanding about members' perceptions of how CPG members interact, and the further interpretation and analysis of the qualitative data collected. As a result of the previous cross-case analysis, these elements were grouped in two topics: performance of the CPG regarding capability planning activity (4.3.4.1) and, nature of interpersonal relationships amongst CPG members (4.3.4.2). In general, there was consistency with the trends, and the elements depicted in each of the trends that emerged as a result of Phase I, as is shown in the two next subsections.

4.3.4.1 Performance of CPGs in capability planning

In general, there was a strong support to the three trends concerning CPG performance, and the elements sketched in the cross-case analysis developed earlier in 4.2.6.

Table 4-1 Performance of CPGs in capability planning

Trends & Elements	Agree	Filter
1. Capability planning activity is 'a lot better', compared to previous models used to plan capabilities	59%	22%
a. Capability planning undertakes a wider perspective, compared to previous models used to plan capabilities	67%	19%
b. Capability planning emphasises a capability perspective and a through life approach, compared to previous models used to plan capabilities	62%	15%
c. Capability planning establishes clearer purposes, roles and responsibilities, compared to previous models used to plan capabilities	59%	15%
d. Capability planning enables a more effective and opportune integration of main stakeholders, compared to previous models used to plan capabilities	59%	17%
2. Capability planning is undergoing a 'developmental process', aimed in the right direction, although the room for improvement is considerable	88%	4%
a. Capability planning works best in forum rather than by virtual means, although both modes complement each other	84%	1.5%
3. Contextual elements pertaining to each CPG influence greatly CPG activity	78%	13%

Source: Survey questionnaire, Appendix E

The three trends shown in Table 4-1 were supported by the majority of the respondents. Firstly, the highest degree of agreement concerned the idea that capability planning is undergoing a developmental process that is aimed in the right direction (Trend 2, 88%). In addition, a comparable level of support was endorsed to the idea that capability planning works best in forum (2.a., 84%), highlighting the importance of the interaction that is held by the CPG members in other forums that enables CPG work 'out of committee', (facilitating communication and coordination of CPG work). Secondly, 78% of the respondents agreed with the idea that contextual elements pertaining to each CPG influence greatly CPG activity (Trend 3).

At this stage, statements with positive connotation like 'Providing [that] discussions are open and frank, with parties showing empathy with others issues and accept that trades, [and] prioritisations are a necessary part – reflected in an open and agreed risk register'¹⁹⁸⁷; were found together with statements with negative connotation as 'I would argue that it [the capability planning 'system'] is fundamentally broken and does not work whatsoever in my CPG'¹⁹⁸⁸. Thirdly, there was less agreement, although still a majority support (Trend 1, 59%) to the perception of capability planning activity seen as a step forward, when compared with previous models to plan capability. Although this majority view is not as strong as in the other two trends, it had the highest number of responses filtered by the 'No opinion/don't know' alternative (22%).

This result could be a reflection of the difficulty in ascertaining perceptions when comparing present and past models, because of rotation of in-service

personnel, as illustrated by the comment expressed by one respondent ‘I am unable to answer the questions about previous methods of capability planning as I do not have any direct experience of them’¹⁹⁸⁹. Furthermore, the elements identified in this Trend 1 were also supported, by about 60% of the respondents, as it can be seen in Table 4-1, elements 1.a to 1.d, although the level of ‘No opinion/don’t know’ responses remain consistently high with the main statement of the trend.

4.3.4.2 Nature of interpersonal relationships in CPGs

In general, as shown in Table 4-2, there was consistency with the idea that capability planning requires a particular environment, ‘open but guarded’, for carrying out discussions with different levels of maturity through time, and that the job cycle of the desk-officers is influential to interpersonal relationships (statement 1. and 2. respectively). Furthermore, the higher rates of consistency with the results of Phase I, were found regarding what were identified as the main challenges to interpersonal relationships in the CPG (3.a. to 3.e.).

Table 4-2 Nature of interpersonal relationships in the CPG

Elements	Agree	Filter
1. Capability planning requires an environment for open, but guarded discussion, ensuring that ideas or proposals won't be widely disseminated	58%	0%
2. To what extent the virtual context facilitate or make more difficult interpersonal relationships, is related to where the desk officer is in his job-cycle (initial / final)	56%	21%*
3. The following elements represent challenges to interpersonal relationships in the CPG:		
a. Bringing members together to develop the CPG	74%	4%
b. Ensuring that new members are integrated to develop the CPG	74%	1%
c. Communicating and coordinating work in CPGs, keeping aligned understanding and individual's activity	83%	1%
d. The necessity of achieving a balance between co-located and virtual work in capability planning	70%	6%
e. To identify and implement the adequate information technology tools to undertake capability planning activity	75%	4%

Source: Survey questionnaire, Appendix E

The highest rate of agreement about what would be the challenges to interpersonal relationships in the CPG was achieved over communicating and coordinating work (3.c., 83%). Furthermore, with comparable levels of agreement (about 75%) and ‘No opinion/don’t know’ responses were supported the other four elements identified as challenges in the cross-case analysis. Thus, additionally, it was confirmed, as a majority view amongst the respondents in this second wave of data collection, that the following challenges to interpersonal relationships in the CPG: bringing members together to develop the CPG (3.a., 74%), ensuring that new members are integrated to develop the CPG (3.b., 74%), the necessity of achieving a balance between co-

located and virtual work in capability planning (3.d., 70%), and fourth, to identify and implement the adequate information technology tools to undertake capability planning activity (3.e., 75%).

4.3.5 Target area 2: Interpersonal trust determinants in CPGs

As discussed, Phase I resulted in a cross-case analysis developed earlier in 4.2.6. This subsection presents the evidence gathered in Phase II, through survey questionnaires, focused on the interpersonal trust determinants in the CPG construct. This was intended to confirm the operation and the comparative relevance of the routes, and the pertinent determinants, that build and maintain interpersonal trust in the CPGs. In the next two subsections, the routes (4.3.5.1) and the pertinent determinants (4.3.5.2) are covered. Finally, in the subsection 4.3.5.3, some further elements were investigated.

4.3.5.1 Routes to build and maintain interpersonal trust

The level of agreement shown in Table 4-3 was 87% with the operation of the Central (statement 2.), 85% with the Habitual (statement 3.), and 74% with the Peripheral route (statement 1.).

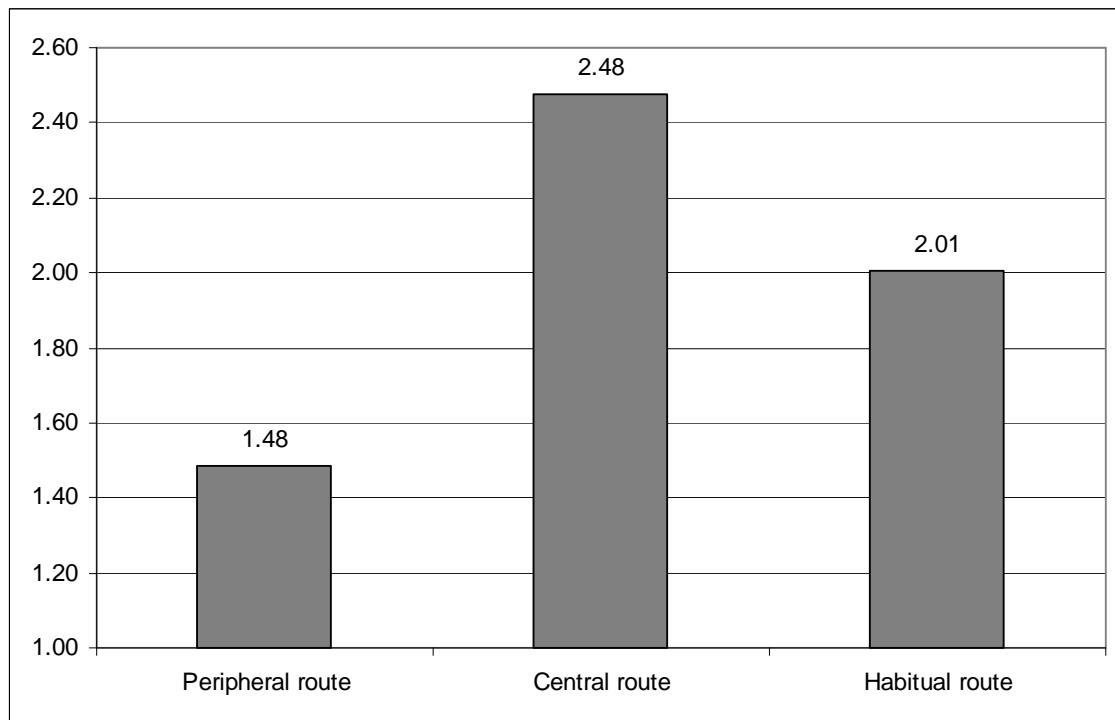
Table 4-3 Routes to interpersonal trust

Statements	Agree	Filter
1. In the CPG, people tend to trust other CPG members based on what they already know before interaction in the CPG context	74%	4%
2. In the CPG, people tend to trust other CPG members when they have already had the opportunity to work with them and then have assessed them	87%	4%
3. In the CPG, people tend to trust other CPG members even more, if they have a mature relationship and they have gained more knowledge about each other	85%	4%

Source: Survey questionnaire, Appendix E

In the questionnaire, respondents were asked to rank the relative relevance of the routes 'to build and maintain interpersonal trust in the CPG'. The higher the number assigned, ranging from one (the minimum) to three (the maximum), the higher the relevance of the route. The results shown in Figure 4-14 represent the average of the responses received.

Figure 4-14 Relative relevance of the routes to interpersonal trust



Source: Survey questionnaire, Appendix E

4.3.5.2 Determinants to interpersonal trust

Questions about the determinants were grouped in three items that covered the pertinent routes, as presented from now on. The determinants' relevance was measured as the level of agreement to expressions that operationalise them in the CPG context.

4.3.5.2.1. Determinants in the Central route

The determinants in the Central route were confirmed by a large majority of the respondents, as shown in Table 4-4, (consistent with the responses about the route where they operate, and what was evident from the results of Phase I). Firstly, Ability, as enunciated in the statement 1., had the highest level of agreement (97%). Secondly, Integrity with 84% and 93% for its composing elements 'sticking to one position, saying the same inside and outside the CPG' (statement 2), and 'members that do what they say will do' (statement 3), respectively. Thirdly, Benevolence, covered in statement 4, had a slightly lower level of agreement (80%) compared to Integrity, which in turn had a comparable 'distance' to Ability.

The notion of trust fragility, as enunciated in the statements 5. and 6., for Ability and Integrity, received a similar level of majority agreement with 78% and 79% respectively.

Table 4-4 Central route - Relevance of the determinants

Statement	Agree	Filter
1. In the CPG, people tend to trust members who show themselves to have the skills and competences to get the CPG job done competently	97%	0%
2. In the CPG, people tend to trust members who stick to one position, saying the same inside and outside the CPG	84%	0%
3. In the CPG, people tend to trust members who do what they say will do	93%	0%
4. In the CPG, people tend to trust members who show care and concern about the others, displaying willingness to do good for the other CPG members	80%	0%
5. The skills and competences of the members are generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly	79%	1.5%
6. The integrity of the members is generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly	78%	4%

Source: Survey questionnaire, Appendix E

4.3.5.2.2. Determinants in the Habitual route

In the Habitual route, shown in Table 4-5, a number of respondents endorsed consistently the idea of the operation of the route through extensive personal knowledge, as enunciated in statement 2., as the Personal identification determinant, with 84% of agreement. Then Habit, in statement 3., (66%); followed by Social bonds, in statement 1, (57%).

Table 4-5 Habitual route - Relevance of the determinants

Statement	Agree	Filter
1. In the CPG, people tend to trust other members because of the tight social bonds they have developed	57%	3%
2. In the CPG, people tend to trust other members when they have accumulated personal knowledge, and they understand their needs, preferences and priorities	84%	1.5%
3. In the CPG, people tend to trust other members because there is a 'regular pattern' of trusting behaviour by members	66%	4%

Source: Survey questionnaire, Appendix E

4.3.5.2.3. Determinants in the Peripheral route

In respect of the Peripheral route, (Table 4-6), there was not complete consistency with the literature and Phase I, as in the other two routes. Firstly, consistent with Phase I, History was perceived as the most relevant determinant before interaction in the CPG. Statements 4. and 5. show that past experience working with a new CPG member (with 88% of agreement to positive

experience, influencing trust; and 77% of agreement to negative experience influencing distrust) influences more than the other peripheral determinants.

Secondly, also in consistence with Phase I, Role (statement 6.) followed in level of agreement with a 51%; and subsequently Rule (statement 7., 46%), Category (statement 8., 45%), and Disposition (statement 3., 45%). Although the latter three determinants showed a higher level of disagreement than agreement (48% for Rule, 51% for Category, and 52% for Disposition). Thirdly, the responses to statements 1. and 2., regarding the Third party information determinant showed the lowest level of agreement response between the peripheral determinants (statement 1., 43%). Furthermore, controversially, when asking about 'colouring' this information by the perception about the source (statement 2.), the level of agreement ascended to 62%.

Table 4-6 Peripheral route - Relevance of the determinants

Elements	Agree	Filter
1. In the CPG, people tend to assess trustworthiness of new CPG members through information from third parties that they know	43%	7%
2. The information provided by third parties is 'coloured' by the perception about the subject source, and his potential bias towards the subject of his comments	62%	9%
3. In the CPG, people tend to trust new CPG members, even if they don't know them, because they have a natural propensity to trust	45%	3%
4. In the CPG, people that have had a positive experience ('history') in the past working with a new CPG member, tend to trust him from the outset	88%	6%
5. In the CPG, people that have had a negative experience ('bad history') in the past working with a new CPG member, tend to distrust him from the outset	77%	9%
6. In the CPG, people tend to trust new CPG members, because if they are chosen to represent their home organisations, they must be good at their job	51%	3%
7. In the CPG, people tend to trust new CPG members, because they work for the MOD and so they behave following some 'explicit and tacit rules'	46%	6%
8. In the CPG, people tend to trust new CPG members, because they have reached certain ranks and so they act according to some 'general principles and practices'	45%	4%

Source: Survey questionnaire, Appendix E

4.3.5.3 Relation between the routes

Before moving onto the responses to Section 4 of the questionnaire, a group of questions investigated further elements about the interpersonal trust routes. These enquiries covered whether the relative relevance of the routes established was changeable through time; if it was perceived as indispensable in order to establish interpersonal trust, via peripheral cues and interaction, for the CPG to work well; and the responsiveness of the respondents to the notion of trust fragility in the CPG. In addition, some questions were asked seeking to

ascertain through which routes the different CPGs would have progressed; together with asking the respondents' perceptions about the influence of general characteristics of the capability planning area covered by their CPGs, and the speed at which a CPG could move forward developing interpersonal trust. The responses to these questions are shown in Table 4-7.

Table 4-7 Relation between the routes to build and maintain interpersonal trust

Elements	Agree	Filter
1. When considered over time, all the routes have a function; although day to day one can be more important than another	80%	10%
2. It is necessary to go through the Peripheral and Central route in order for the CPG to work well	68%	12%
3. Progressing in building interpersonal trust through the routes is influenced by the level of interaction needed across a particular CPG to get the job done	75%	15%
4. Interpersonal trust between CPG members is fragile... It can go up and down easily	57%	4%
5. Different members of the CPG develop interpersonal trust through different routes	90%	6%
6. Most of the CPGs reach the Habitual route to build interpersonal trust	52%	28%
7. Most of the CPGs reach the Central, but not the Habitual route to build interpersonal trust	49%	23%
8. Most of the CPGs reach only the Peripheral route to build interpersonal trust, without moving into the Central or Habitual routes	19%	31%
9. CPG members tend to progress building and maintaining interpersonal trust earlier in:		
a. CPGs with lower interdependence with other capabilities	52%	25%
b. CPGs with a reduced stakeholders base	73%	12%
c. CPGs related to a small specialists' community	79%	10%
d. Single service-oriented CPGs (ex: Above Water)	73%	19%
e. Joint-oriented CPGs (ex: ISTAR)	25%	20%

Source: Survey questionnaire, Appendix E

To begin with, the routes would have a different level of influence which can vary through time (statement 1., 80%). Moreover, different members of the CPG would develop interpersonal trust through different routes (statement 5., 90%).

Secondly, a majority of the respondents (statement 2., 68%) supported the idea that the Peripheral and Central route determinants should be operating for the CPG to perform well. In addition, the respondents agreed (statement 3., 75%) in that the level of interaction needed across different sorts of CPGs (considered to be different by the respondents, when answering the question presented in Figure 4-13, and statement 3. in Table 4-1) influenced progress in building interpersonal trust. Closely related with this answer, for the respondents, CPGs that tend to progress more quickly in building and maintaining interpersonal trust; would be those covering 'small specialists' communities' (statement 9.c.,

79%), those with 'with a reduced stakeholders base' (statement 9.b., 73%), and 'single service-oriented' (statement 9.d., 73%) CPGs.

Following the same enquiry, a lower level of agreement, 52% of the respondents (statement 9.a.), supported the idea that CPGs 'with lower interdependence with other capabilities' would progress earlier in building and maintaining interpersonal trust. Although in this latter case, the level of disagreement added up to the responses filtered by 'No opinion/don't know' reached a similar level of endorsement, compared to the agreement response, suggesting that progress in CPGs covering capability planning areas 'with lower interdependence with other capabilities' would be slower. Furthermore, only a 25% (statement 9.e.) of the respondents agreed that CPGs working on 'Joint oriented' capabilities would progress earlier in building and maintaining trust. Conversely, 55% of the respondents showed disagreement with this statement (9.e.). Thus, in 'niche' capability planning areas, as depicted here, opposed to 'joint' and to some extent to 'lowly interdependent' capability planning areas; higher levels of trust would be achieved earlier by these CPGs, performing effectively, before other CPGs.

Finally, when trying to ascertain what routes the CPGs would have reached when building interpersonal trust there was some level of inconsistency. First, 19% of the respondents agreed that most CPGs reach only the Peripheral route (statement 8.). Second, a further 49% agreed that most of the CPGs reach the Central, but not the Habitual route (statement 7.). Third, 52% agreed that most CPGs reach the Habitual route to build interpersonal trust (statement 6.).

4.3.6 Target area 3: Issues and risks regarding interpersonal trust in CPGs

Section 4 of the questionnaire was aimed to ascertain salient characteristics of issues and risks regarding interpersonal trust in the CPGs. Thus, this subsection addresses the answers to the Research Question 2: What, if any, are the issues surrounding those determinants within the CPG?; and, Research Question 3: What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members?

In a similar manner to Target area 2, the discussion in this section is based on the findings emerging from the cross-case analysis in Phase I. In this previous analysis, it was evident that the interviewees pulled issues and risks together, through the interviews, because what in some CPGs was perceived as an issue in another was a risk. Moreover, it was common occurrence that, in one CPG an element that constituted an issue for one member, for other members was a risk, or vice versa. Consequently, the last section of the questionnaire builds a comprehensive picture from the perceptions of individuals, about issues and risks regarding interpersonal trust in the CPGs. The questionnaire applied, intended to confirm findings and exploring, when applicable, elements that emerged in Phase I; showed consistency with the results of the interviews to the members of a sample of CPGs in Phase I.

Initially, two questions covered general perceptions about issues and risks amongst the respondents, as shown in Table 4-8. Regarding the sources of elements affecting interpersonal trust in the CPGs, for the majority of the respondents, these would be generally external (statement 1., 56%). In addition, the general perception was that risks concerning interpersonal trust in the CPGs would not be managed 'in any manner' (statement 2., 71%).

Table 4-8 General – Issues and risks

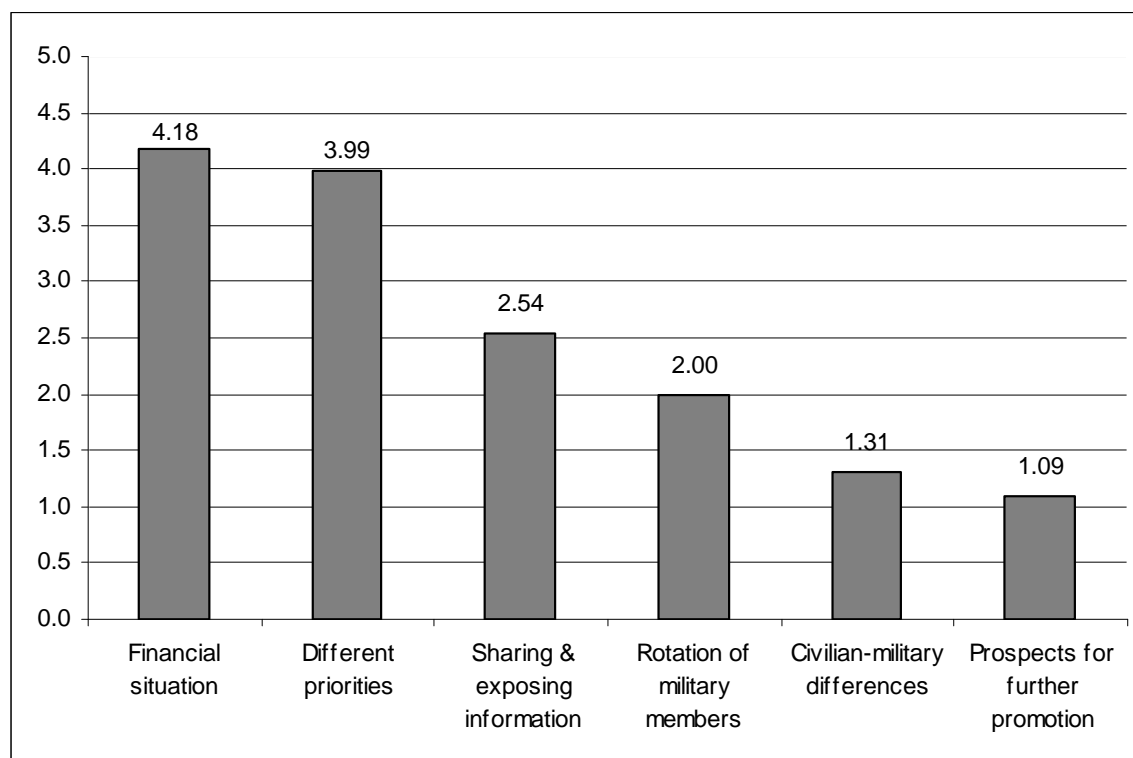
Statements	Agree	Filter
1. The 'biggest pressures' to CPGs, influencing interpersonal trust, are always going to be external	56%	9%
2. Risks regarding interpersonal trust are not managed 'in any manner'	71%	10%

Source: Survey questionnaire, Appendix E

As a result of the interview process, six elements emerged, that were perceived as salient issues or risks regarding interpersonal trust. Although there was no clarity about what would be the degree of importance that these elements have to building and maintaining interpersonal trust. Therefore, in the questionnaire, respondents were asked to rank their relevance, assigning a number from 1, to the most damaging to interpersonal trust building and maintenance; to 6 to the least damaging. In order to represent graphically the responses to this question, the averages of the responses are shown in Figure 4-15. There, the results were factored to present a number where 5 would represent the element with highest, and 0 the element with the lowest, impact on interpersonal trust. When the answers were tabulated (Figure 4-15), it was evident that the most relevant issue for the respondents was an external influence, the 'Financial situation' discussed previously. The remaining five elements were deemed internal.

It is rather clear from the CPG members' responses (Figure 4-15) that the 'Financial situation' (4.18) and 'Different priorities' (3.99) show about double relevance compared to 'Sharing and exposing information' (2.54) and 'Rotation of military members' (2.00). Further, in a third level of relevance, 'Civilian-military differences' (1.31) and 'Prospects for further promotion' (1.09), still show a level of relevance for the respondents that doesn't appear as negligible.

Figure 4-15 Relevance of the issues or risks regarding interpersonal trust



Source: Survey questionnaire, Appendix E

The discussion from now on concentrates on these already mentioned six elements.

4.3.6.1 Financial situation

Table 4-9 shows the questions and responses about the financial situation. Thus, based on a majorities criterion used for the analysis of the questionnaire, some clear perceptions are reflected. It is clear that everything done at CPGs, at the time of the survey, was driven by the permanent consideration of the financial situation through devising 'options' (statement 1., 94%), that are set of measures designed to save costs (although theoretically, they could increase capability as well). Furthermore, in the perception of the respondents' resource issues drive Centre (statement 4., 97%) and Capability (statement 5., 94%) staff, as they attempt to save money.

Interpersonal trust amongst CPG members would be affected negatively, although not significantly, because of the impact on the services of decisions being considered (statement 2., 54%). Moreover, the situation of having to re-scope requirements already set, as a result of cuts and adjustment measures also would undermine interpersonal trust in the CPGs (statement 3., 60%).

The financial situation is perceived by the majority of the respondents as an issue related to the allocation of priorities not only across different capability areas (statement 6., 89%), but also inside the individual capability areas

(statement 7., 84%). Furthermore, lack of priorities at inter-capability area level, would undermine interpersonal trust in the CPG (statement 9., 54%); situation that would be aggravated by lack of priorities in different areas of capability, without clarity about what capabilities give up to deliver within resources (statement 8., 83%).

Table 4-9 Financial situation

Elements	Agree	Filter
1. Constrained financial resources are a permanent consideration which drives the devising of 'options', 'everything CPGs do is driven by the financial situation'	94%	1%
2. Financial constraints set tight saving objectives on CPGs. As decisions being considered impact the services, restrictions influence negatively interpersonal trust at working level	54%	6%
3. Unforeseen cuts in resources and subsequent adjustment measures, negatively influence interpersonal trust in the CPGs, when requirements have to be re-scoped to deliver some form of capability	60%	4%
4. Resource issues drive Centre staff as they attempt to save money	97%	1%
5. Resource issues drive Capability staff as they attempt to save money	94%	1%
6. The financial situation is an issue related to the allocation of priorities across different capability areas	89%	3%
7. The financial situation is an issue between CPGs in the same capability area	84%	6%
8. The impact of the financial situation is aggravated by lack of priorities in different areas of capability, without clarity about what capabilities give up to deliver within resources	83%	3%
9. Lack of priorities at inter-capability area level, undermines interpersonal trust in the CPG	54%	9%
10. Constrained financial resources is an issue, about which nothing can be done unless the capability management process changes to 'just buy off the shelf'	34%	3%

Source: Survey questionnaire, Appendix E

The Table 4-9 renders one of the strongest levels of agreement in the survey, around the impact of resource issues on capability planning activity in general. In addition, there is concrete agreement regarding its relation with the allocation of priorities into a particular, and amongst different capability areas. In any case, although not explored further, in the majority of the respondents' view, it would be feasible to find alternative mitigating measures, other than a radical change to the management of capabilities as changing to buy off the shelf equipment that is currently planned and developed in a bespoke basis (statement 10., 63%).

The issue of the allocation of priorities is further discussed in the next paragraphs.

4.3.6.2 Different priorities between organisational areas

In general, the results from Phase II tend to confirm the tensions in cross-functional work, regarding CPG members' allegiances to the different organisations integrated in the MUC.

In table 4-10, the responses to questions covering different priorities in general are presented. Basically, the organisations represented in the CPGs would bring in different sorts of views (statement 1., 94%). These views, coming from the single services or the other organisational areas integrated in the MUC, emphasise the influence of differing priorities, which are seen as undermining interpersonal trust in the CPGs, by a little over half of the respondents (statement 2., 52%). Consistent with the literature reviewed in 2.3.3 'Relevance of trust', interpersonal trust is perceived as helping to work around those differences (statement 6., 91%).

There are some elements pertaining to these diverging priorities. Firstly, there would be limitations drawn from individuals' own organisational structures (statement 5., 93%), which impose on them their core responsibilities. Secondly, from the respondents majority perspective, it is possible that a decision could be taken, in a CPG, ignoring assumptions, risks or issues that might affect other capability planning areas (statement 3., 77%). Thirdly, vested interests could play 'in favour' or 'against' an allegiance, because of the scrutiny CPG members (statement 4., 88%) are under.

Table 4-10 Different priorities

Elements	Agree	Filter
1. Different priorities emerge from different views brought into the CPG: a capability view, a single service view, whether a support or science view, a money view, etc.	94%	3%
2. The existence of different priorities is 'a constant problem' that undermines interpersonal trust in the CPG	52%	2%
3. People can take a decision in the context of a program area or a CPG, ignoring the assumptions, risks and issues that may have an impact on another CPG	77%	0%
4. 'Vested interests' could work both ways, in 'favour' of an individual's home allegiance, or 'against' a service when trying to demonstrate being 'purple', for example.	88%	1%
5. Additional constraints come into the CPG from individuals' own organisational structures, because there is a limit to what people can really follow through.	93%	3%
6. Interpersonal trust is an element that helps to surmount diverging priorities of CPG members, helping them to work around those influences	91%	3%
7. The best thing to overcome organisational rivalries and to foster trust is:		
a. To understand what is actually required	98%	0%
b. To understand what is policy compliant	94%	0%
c. To understand and follow the strategic intent	98%	0%

8. The following influences detract more from the overall benefit to defence of CPG work:		
a. Other CPGs' interests	57%	6%
b. FLCs, Single services interests	78%	4%
c. Specialists communities	29%	58%
d. DSTL interests	41%	8%
e. DE&S interests	60%	5%
f. Cap Sponsor interests	61%	6%
g. MOD Head Office interests	73%	8%

Source: Survey questionnaire, Appendix E

When asked about which influences would detract more from the overall benefit to defence of CPG work, respondents put primarily single service interests (statement 8.b., 78%), followed by MOD Head Office interests (statement 8.g., 73%). Subsequently, Cap Sponsor (statement 8.f., 61%), DE&S (statement 8.e., 60%), and other CPGs' interests (statement 8.a., 57%). Alternatively, only 41% of the respondents agreed to this perception regarding DSTL's interests (statement 8.d.). Finally, when asked about any specialists' community exerting influence in this regard (statement 8.c.), a 58% of the respondents were filtered by the 'No opinion/don't know' option. Only 29% of the respondents deemed that some specialists' communities detract from the overall benefit to defence of CPG work. Although respondents were asked to provide names of these communities, some names were given, but there were only isolated individual mentions.

Further, when asked about key elements which facilitate overcoming organisational rivalries and to foster trust, the respondents almost unanimously agreed with the propositions: understand and follow the strategic intent (statement 7.c., 98%), understand what is actually required (statement 7.a., 98%), and understand what is policy compliant (statement 7.b., 94%).

Different priorities – Single service agendas

As a result of the cross-case analysis in Phase I, an additional set of questions, shown in Table 4-11, was intended to establish the generalisability of some isolated perceptions gathered in that previous phase.

For the majority of the respondents, allegiance to an individual's home service is perceived as natural (statement 1., 90%), and also inherent to working in any joint context (statement 2., 91%). Furthermore, single service agendas in the CPGs would be apparent when an individual participates in the production of a piece of work that may be seen as disadvantaging 'his' service (statement 11., 68%). Moreover, for 67% of the respondents, civil servants would not be 'immune' to this phenomenon (statement 6.).

Regarding interpersonal trust in the CPGs, for a majority of the respondents, the influence of single service agendas would be the biggest issue (statement 4., 52%). However, the high level of disagreement with this idea, 44%, would be coherent with answers shown in Figure 4-15. According to that figure, 'Different priorities' as an issue or risk regarding interpersonal trust, which include single service interests, the strongest organisational perspective gravitating over CPG

work, as seen in Table 4-10, statement 8.b.; is close to the Financial situation, in terms of relevance as an influence to interpersonal trust in the CPGs. In addition, for the majority of the respondents single service agendas are seen as a 'divisive' element affecting interpersonal trust (statement 5., 57%). In any case, behaviours driven by single service agendas are perceived as not always evident (statement 7., 57%). This view is coherent with the 'caution' that would be taken by CPG members when there are individuals from other services in the CPG (statement 8., 48%). Regarding this latter expression, although 48% is not a majority view, it was seen as relevant because 10% of the responses to this question are filtered by the 'No opinion/don't know' alternative. This is probably related to the 25% of the respondents that see their CPGs as 'Single environment / single service oriented' (Figure 4-13), and probably do not share membership with individuals from the other services.

In practical terms, in the respondents' view, single service influence could be exerted through dominance in the staff base of a capability area (statement 10., 88%), or through a services' hierarchy influencing CPG members that then would be advocates of what a service hierarchy says (statement 9., 97%). It is noteworthy that this latter description of the manifestation of single service influence had an almost unanimous agreement amongst the respondents. Furthermore, the conflict between the services is perceived as a struggle to channel financial resources to what would be perceived as a single service's particular priorities (statement 3., 85%).

Table 4-11 Different priorities – Single service agendas

Elements	Agree	Filter
1. CPG members have a natural allegiance to their own service	90%	1%
2. Single service agendas are inherent to any joint environment, project, or even a joint job, so they are present in CPGs. They are 'a fact of service life'	91%	1%
3. The struggle between service agendas is an expression of interests to gain financial resources, and direct them according to particular priorities	85%	3%
4. Single service influence is the biggest issue regarding interpersonal trust in the CPG	52%	4%
5. Single service agendas affect interpersonal trust in the CPG, because they are really 'divisive'	57%	1%
6. Civilian CPG members are 'immune' to single service agendas	29%	4%
7. Behaviours driven by single service agendas are not always clearly evident in the CPG, 'in joint areas... you believe they are operating to another authority'	57%	13%
8. If there were members from the other services in the CPG an individual would be more 'cautious'	48%	10%
9. Single service influence can come from a service's hierarchy, denominating 'vital ground', 'platforms that we want to keep'; 'things that we will not lose', and then the individual 'would be an advocate for those types of capabilities'	97%	0%

10. Single service influence could be exerted through one service dominant in the staff base of a capability area, endorsing what the hierarchy in that service says	88%	1%
11. Single service influence would be apparent when one individual participates in the production of a piece of work that 'may be seen as disadvantaging his service'	68%	10%
12. An individual should be certain that the 'system' would not disadvantage him in his career when making decisions that 'go against what is perceived to be the way he should be voting', when he is pursuing overall defence benefit	72%	9%
13. Changes to importance paid by the services to a CPG's planning area introduce difficulties in terms of absence of clear priorities and consistency to perform CPG activity	78%	7%
14. Lack of importance of some CPG's activities to the FLCs, is reflected in low attendance at CPG meetings, with members replaced by delegates; or members attending without adequate preparation	85%	3%
15. In the MoD everybody is very busy. It is extremely difficult to find some time to perform CPG duties	75%	0%
16. In the CPGs, staff primary loyalty is to...		
a. Defence as a whole		39%
b. Home organisation or service		52%
c. No opinion / Don't know		9%

Source: Survey questionnaire, Appendix E

Another element that found majority support amongst the respondents had to do with what is perceived as the importance assigned by the services to capability planning activity. Firstly, there is support amongst the respondents, to the general perception that the level of core activities difficult to 'find' time to fulfil their CPG responsibilities (statement 15., 75%). Secondly, there would be low attendance to CPG meetings by the members, or members replaced by delegates, or attendees sometimes lacking of adequate preparation (statement 14., 85%). The latter situation influences interpersonal trust adversely, because it reduces even more face-to-face interaction necessary for its development through time, and weakens perceptions of ability of members poorly prepared to fulfil their role in the meetings. Both are elements acknowledged in the literature as enabling to engage in the assessment of trustworthiness, and strongly determining trust through the Central route, respectively. Thirdly, fluctuating importance paid by the services to some capability planning areas would result in absence of clear priorities and consistency to perform CPG activity (statement 13., 78%). It is noteworthy that only a 15% of the respondents disagreed with statement 13.

The struggle between pursuing benefit to defence overall, or an individual's home organisation or service's interests, in the CPGs was apparent also, when respondent were asked about to whom staff primary loyalty was devoted. The majority of the respondents chose home organisation or service (statement 16.b., 52%) over defence as a whole (statement 16.a., 39%).

Finally, when exploring perceptions about how to stimulate behaviours that pursue overall defence benefit, there was majority support to the idea that individuals should not perceive that they could be disadvantaged in their careers if they have to go 'against' their home service interests or priorities (statement 12., 72%).

4.3.6.3 Sharing and exposing information

The findings about sharing and exposing information are examined and discussed under this headline. Table 4-12 quantifies some qualitative perceptions gathered in Phase I, about the use that CPG members would make of information pertinent to the CPG activity that they might have.

From the outset, it was evident that in the respondents' majority view, some CPG members manage more information, having clearer perspectives, than other members (statement 13., 83%). In this regard, perception is that information would be withheld by means of declaring it late in the CPG, or not consulting people who should be consulted in a particular subject (statement 1., 54%). Moreover, this withholding of information is seen as a way to protect activities or resources, in a behaviour 'encouraged by the system' (statement 2., 71%). These activities or resources to protect would be priority for the individual, but not for the CPG as a whole. In addition, the majority of the respondents would be reluctant to provide information to another CPG member if they are not sure how it would be used by him (statement 5., 57%).

In this context, interpersonal trust is seen as a fundamental factor for the functioning of the CPG, that facilitates flow of information necessary to accomplish CPG goals (statement 10., 85%). However, consistent with Figure 4-15, where it was depicted as the third issue in relevance, although relevant, there wasn't majority support to the idea that withholding information would be the 'single most damaging thing' regarding interpersonal trust in the CPG (statement 9., 49%). Moreover, for the majority of the respondents, 'weaknesses' about managing information would arise from poor quality of information management systems that would difficult to find relevant data (statement 11., 76%). An additional element would be the nature of the capability planning area's related community to which the CPG belongs. When this is a small community, perception is that CPG members would tend to be stovepiped from a wider defence perspective (statement 12, 61%).

Behaviours around information withholding were depicted by the respondents as related to the existence of different priorities, which would influence the definition of what information could or could not be exposed (statement 6., 69%). Consistent with Section 3 of the questionnaire, developed in 4.3.5.2.1 'Determinants in the Central route', there was an almost unanimous view of the respondents in the sense that a CPG member behaving inappropriately in this regard would undermine other CPG members' perception about the individual's trustworthiness (statement 8., 94%). Furthermore, these behaviours would inform the Central route through the two strongest determinants of the strongest route to build and maintain interpersonal trust, ability and integrity (statement 7., 85%).

Table 4-12 Sharing and exposing information

Elements	Agree	Filter
1. Withholding information is the degree to which, information is declared late, or people aren't properly consulted; as opposed to when people are open	54%	19%
2. Withholding information is a way to protect an activity or resource, in a behaviour encouraged by the 'system'. Avoiding revealing an individual's 'full hand', or the full extent of a project, may help to protect it	71%	9%
3. Elements of withholding information between CPG members 'do occur, but tend not to be too bad when getting into bigger decisions'	53%	9%
4. In many areas, information 'has been used against, those who provide it'	35%	15%
5. CPG members are averse to passing some information to someone they aren't sure would use it correctly	57%	7%
6. Different priorities will determine what information can or cannot be exposed	69%	4%
7. Withholding information is a risk to a CPG member's credibility (ability plus integrity)	85%	3%
8. Individuals perceived by the group as not being open, or pursuing other interest, risk not being seen as a trusted part of the group anymore	94%	3%
9. Withholding information is an issue, 'the single most damaging thing', regarding interpersonal trust in the CPG	49%	10%
10. Interpersonal trust stands as a 'fundamental factor' for the functioning of CPGs, facilitating the flow of information necessary to accomplish CPG goals.	85%	1%
11. Any 'weakness' about managing information arises from the poor quality of information management systems that make it difficult to find relevant data, not people withholding information.	76%	3%
12. If a CPG belongs to a small community, its members tend to be stovepiped from a defence perspective	61%	9%
13. Some CPG members manage much more information, having a clearer perspective than other members	83%	4%
14. The possibility to share information in a more 'restricted' format allows CPGs to work; a member doesn't have to pass compromising information to everyone. Thus, people that 'wouldn't need to know can be left out, until you are in a position to have the information tested in a wider context.'	65%	14%
15. There are situations where the CPG construct can undermine decision-making, because the CPG is such an inclusive arrangement that members struggle to make decisions as they tend to discuss outside the CPG in a more 'restrictive' format	59%	7%
16. There is a tendency to share information bilaterally, thus often the whole group is not included and some members may miss out on information	56%	4%
17. The constant struggle to obtain information plays against the formation of trust	46%	10%

Source: Survey questionnaire, Appendix E

Some controversial findings were found regarding the particular environment required by capability planning, 'open but guarded', as expressed in 4.3.4.2 'Nature of the interpersonal relationships in the CPG'. On the one hand, when a CPG is perceived as an entity that enables to share information in a 'restricted' format, it would allow the CPG to work (statement 14., 65%). On the other, a CPG can be perceived as a construct undermining decision making because it would be a very inclusive arrangement. Because of this, members would tend to make discussions outside the CPG looking for a more 'restrictive' format (statement 15., 59%). Furthermore, there would be a tendency to share information bilaterally, missing out other members on information (statement 16., 54%). Although these two contrasting perceptions support some level of controversy, regarding what would be enabled in the CPGs, it is consistent with two elements already examined. Firstly, the high level of relevance attributed by the CPG members to sharing and exposing information as an issue regarding interpersonal trust, shown in Figure 4-15 in this subsection. Secondly, the Trend 3 regarding performance of CPGs in capability planning in Section 2 of the questionnaire, 4.3.4.1 'Performance of CPGs in capability planning', in the sense that contextual elements pertaining to each CPG influence greatly CPG activity.

4.3.6.4 Rotation of military members

From Phase I, consistent with the literature examined, it was clear that permanency of individuals in the CPG is relevant to the building and maintaining of interpersonal trust. In this regard, the rate of rotation of military members (Table 4-13), for about 60% of the respondents (statement 1.), would not allow enough time to build and maintain interpersonal trust in the CPG. In addition, for 68% of the respondents (statement 2.), the rate of rotation slows down the process to gain more knowledge about each other in the CPG. Thus, rotation would elongate the time required to progress through the Central and Peripheral routes. Moreover, this perception about rate of rotation of military members of the CPG affecting interpersonal trust would also include to some extent, according to a 45% of the respondents (statement 3.), civilians as well. These responses suggest that personnel rotation would affect not only military CPG members, but civil servants as well.

In this respect, the average membership of civilian respondents was 36 months and for military it was less than half, reaching 15 months.

From the respondents perspective, it was clear the discernment that civilians, perceived as having longer membership in the CPGs, would have a different approach to risks identified in the pertinent capability planning area, because they would 'have to live' with their potential 'realisation'. This idea had a majority support of 57% (statement 4.).

Table 4-13 Rotation of military members

Elements	Agree	Filter
1. The rate of rotation of military members of the CPG does not allow enough time to build and maintain interpersonal trust in the CPG	61%	1%
2. The rate of rotation of military members of the CPG slows down the process to gain more knowledge about each other	68%	1%
3. The rate of rotation of civilian members of the CPG is an issue regarding interpersonal trust in the CPG	45%	6%
4. Longer membership by civilians in the CPG encourages them to have a different approach to risk because they are more likely to stay in post when risks are realised	57%	12%

Source: Survey questionnaire, Appendix E

4.3.6.5 Differences between civilian and military CPG members

Civilian and military members of the CPGs are perceived as having differences in diverse aspects.

As can be seen from the responses tabulated in Table 4-14, in the respondents perceptions, military members of the CPG make more use of the Peripheral route (statement 1., 55%), progress more quickly through the Central route (statement 2., 74%), and reach the Habitual route before than civilian CPG members (statement 3., 65%). Although, it is undoubtedly perceived that there are cultural and style differences between civilian and military CPG members (statement 12., 82%), this situation is only perceived as a challenge to gain mutual knowledge, between a little less than half of the CPG members (statement 4., 49%). Furthermore, the perception is that civilian and military bring complementary views to the CPG (statement 11., 86%).

In any case, for the majority of the respondents, the differences between military and civilians are perceived as irrelevant if the civilian (statement 5., 86%) or military (statement 6., 78%) members have the right skills and competences, if they are 'really capable'.

Some mutual perceptions drawn out of Phase I were tested through the questionnaire. First, the perception that civil servants in the CPG tend to take a more 'integrated' perspective about interdependencies received low support (statement 7., 39%). In fact, 53% of the respondents disagreed with this suggestion. Second, the idea that Military members of the CPG bring 'useful' experience from deployed operations was supported by the majority of the respondents (statement 8., 84%). Third, a slight majority (statement 9., 52%) of the respondents support the perception that civilians in the CPG tend to be more bureaucratic than their military counterparts. Finally, Military members of the CPG are seen as being more task oriented (statement 10., 72%) than the civilians.

Table 4-14 Civilian-military differences

Elements	Agree	Filter
1. Military members of the CPG tend to attribute trust to new CPG members through what they already know before interaction in the CPG context, more than the civilians members	55%	20%
2. Military members of the CPG tend to trust each other more quickly when they have already had the opportunity to work and assess each other, compared to civilian members	74%	13%
3. Military members of the CPG tend to progress more quickly to develop a mature interpersonal relationship, fostering trust, compared to civilian members	65%	12%
4. Differences between military and civilian CPG members pose 'challenges' to the gaining of more knowledge about each other	49%	6%
5. The civilian-military differences are irrelevant if a civilian is really capable	86%	4%
6. The civilian-military differences are irrelevant if a military officer is really capable	78%	4%
7. Civil servants in the CPG tend to take a more 'integrated' perspective about interdependencies in capability planning, considering other tasks that they may be aware of, where there could be some conflict	39%	8%
8. Military members of the CPG bring 'fresh, very useful' operational experience from deployed operations	84%	3%
9. Civil servants in the CPG tend to be more bureaucratic than their military counterparts	52%	5%
10. Military members of the CPG tend to be more task oriented than their civilian counterparts	72%	4%
11. Military and civilians bring to the CPG views that complement each other	86%	4%
12. There are no cultural and style differences between civilian and military members in a CPG	17%	1%
13. To perform better, it is necessary to 'overcome prejudices', breaking down 'tribal barriers' opening the flow of communication and reception to other ideas	91%	1%
14. In the CPG all the members use the same technical language	51%	1%

Source: Survey questionnaire, Appendix E

A relevant question here, what is the degree of difference between the perceptions of the actors regarding these differences. Nevertheless, this further analysis will not be covered for reasons of extension.

4.3.6.6 Prospects for further promotion

In the survey questionnaire, respondents were faced with questions about the nature of the influence of the central organisational dilemma, discussed in Chapter 2 and earlier in this chapter, on members' behaviours regarding interpersonal trust in the CPGs. In this context, some dimensions established in

the first stage of the research were quantified through the questionnaire, as shown in Table 4-15.

In general, there would be certain levels of trust amongst CPG members limited by 'other members' own pressures' that they would be under (statement 5., 70%). In this regard, it was the respondents' majority opinion, 62% against an 11% differing, that the career reward structure does not help to optimise CPG activity (Survey questionnaire, Section 4, 26)). Nevertheless, some controversial perspectives were found. On the one hand, in the respondents' majority view, the reporting chain, which decides if an officer gets promoted or not, would not influence the behaviour of military CPG members (statement 1., 53%). Furthermore, in the majority view, the 'career aspect' doesn't influence interpersonal relationships between CPG members, because, they would not be pursuing self-interest, they would wish to make defence the best it can be (statement 8, 52%). However, this latter perception obtained a 47% of disagreement, 5% less than the agreement option. Arguably, these two statements (1. & 8.) could have a certain, unknown, level of under-report, because of the nature of the questions. Then, these responses have to be considered in the context of some other related responses available. Conversely, it is perceived that the report system encourages pursuing single service agendas, because promotion is achieved through the single services reporting system (statement 4., 57%). Thus, in practical terms, individuals would like to have the consent of the reporting chain (statement 2., 79%). In this regard, an element to the 'career aspect' would be the interest of an individual's chain of command, or how driven the members of the chain are, by the outcomes of a CPG (statement 7., 57%). Furthermore, there was a high level of agreement, the highest shown in Table 4-15, about the idea that CPG members act to safeguard the interest of the organisation they represent (statement 9., 93%). To sum up, these opposite views are consistent with the inconclusive perceptions reported when asking directly if prospects for further promotion drive controversial behaviour in the CPG, in the sense that a member could have followed the desire of his line manager, in opposition to the CPG's opinion (statement 6.).

Table 4-15 Prospects for further promotion

Elements	Agree	Filter
1. The reporting chain influences the behaviour of military CPG members, because it decides whether they get promoted or not.	43%	4%
2. In practical terms, individuals don't like 'to irritate' the person who writes his report, or the person whose writes his either'.	79%	2%
3. Those working in the CAP areas need to be careful about what they say in case it affects their careers	45%	5%
4. The report system encourages pursuing single service agendas, 'nobody gets promoted by the joint system because there isn't one, is a single service system'.	57%	9%
5. There is trust between everybody in the CPG, but only to a certain extent, because everyone is aware that the other members are under their own pressures	70%	4%

6. Prospects for further promotion drive controversial behaviour in the CPG, where a member's appraisal might say he did very well because he followed the desire of his line manager, even though this could have been in opposite direction to the CPG's opinion	48%	6%
7. An element to the 'career aspect' is the interest of the individual's chain of command, or how driven the members of the chain are by the outcomes of the CPG	57%	10%
8. The 'career aspect' doesn't influence interpersonal relationships between CPG members, because, they are not pursuing self-interest, they wish to make defence the best it can be	52%	1%
9. People in the CPG act to safeguard the interest of the organisation they represent	93%	0%
10. The prospect of further promotion is a 'secondary consideration', because behaviour in a CPG is not heavily influenced by how a member's career might be affected	65%	5%
11. CPG activity plays a minor part in overall CPG members' performance evaluation, it doesn't make 'an awful lot of difference'	75%	3%
12. The prospect of further promotion plays a part at higher levels, above CPG. But, not in the CPG	36%	30%
13. There is incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature five, ten years downstream, although the long-term consequences of the decision might not be well understood at this time	50%	5%
14. Individuals look for sponsorship from a given authority level, 'a power of patronage', from a person that in the future, 'is going to be in a position of authority... that it's going to payback'.	49%	9%
15. Prospects for further promotion have higher influence on more junior personnel, where individuals are somewhat more guarded in what they are willing to say or how they are willing to challenge.	52%	4%
16. In small 'capability communities', more junior individuals are conscious that it is likely that the relationship between equals in a CPG can change in the future, for a superior-subordinate relationship	46%	22%
17. When members reach their 'career ceiling', they don't worry about perception from senior people so much, because 'as long as they do their job competently and clearly in the best interest of defence, there are very few risks to them and people around them'	87%	0%
18. The lack of prospects for further promotion allows 'enormous freedom' to pursue the CPG role, instead of being concerned about potential negative outcomes for the individual, 'You can say what is actually true, rather what you think the boss wants to hear'	74%	5%
19. Prospects for further promotion influence CPG activity, if an individual is close to changing appointments; he may be 'coasting' because he is thinking about his next job. So he might avoid taking a bold decision in case it affects that future job.	43%	3%

Source: Survey questionnaire, Appendix E

Subsequently, some responses underpinned the general idea that prospect for further promotion influences members' behaviours in the CPG, but that influence would not be overwhelming. For 65% of the respondents, it would be a 'secondary consideration', because behaviour in a CPG would not be heavily influenced by how a member's career might be affected (statement 10.). Moreover, CPG activity would play a minor part in overall CPG members' performance evaluation, because it would not make a big difference (statement 11., 75%)

An additional consideration regarding potential for promotion would be the seniority of the individuals, which would influence in different ways members with different level of seniority. On the one hand, there was strong support to the idea that reaching a 'career ceiling', where there are no prospects for further promotion, CPG members would have 'enormous freedom' to pursue their role, instead of being concerned about potential negative outcomes for them (statement 18, 74%). They would not have to worry about perception from senior people so much, because there would be very few risks to them and people around them, 'as long as they do their job competently and clearly in the best interest of defence' (statement 17., 87%). Conversely, prospects for further promotion would have higher influence on more junior personnel, where individuals are somewhat more guarded in what they are willing to say or how they are willing to challenge (statement 15., 52%). Furthermore, there was a 46% of agreement (and 32% of disagreement), with the idea that in small 'capability communities', more junior individuals would be conscious that it is likely that the relationship between equals in a CPG could change in the future, for a superior-subordinate relationship (statement 16.).

A number of further dimensions merit consideration; although they showed a high level of disagreement amongst the respondents. Firstly, the idea that there would be an incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature in the future. Although the long-term consequences of the decision might not be well understood at the time (statement 13., 50%). Secondly, the consideration of the influence on the next job of taking bold decisions in the CPG, when close to change appointment, was rejected by the majority of the respondents as influential to CPG activity (statement 19., 54%). Thirdly, the suggestion that a CPG member could look for 'sponsorship' from an authority level, implying a potential future payback, was generally supported (statement 14., 49%). These dimensions showed an important level of disagreement amongst the respondents (45%, 43%, and 42% respectively).

4.4 Summary of the chapter

In this chapter, the findings of the two sequential phases of data gathering were presented.

Firstly, the members of five selected CPGs were interviewed, following a semi-structured format. Then, the data obtained was sorted and analysed, grouped in

five clusters, following the same format for the five CPGs. Subsequently, a cross-case analyses integrated the evidence emerging around the lines of enquiry. This, was deemed to allow understanding the findings in the most sensible manner and to identify target areas for the further elaboration of a survey questionnaire to proceed with Phase II of the fieldwork.

Subsequently, by means of a survey questionnaire addressed to the whole population under consideration, the target areas were covered. Information gathered about the interpersonal trust determinants in the context of capability planning activity concentrated on the respondents and their CPG activity, perceptions about the work in the CPGs, the interpersonal trust determinants, and the issues and risks regarding interpersonal trust in the CPGs.

In the next chapter, these findings underpin the development of an integrated analysis and discussion addressing the research questions. First, the CPG members and the degree of virtualness of the CPGs are characterised. Second, an integrated view covers the understanding of influential elements pertaining to interpersonal trust in the CPGs. Finally, the analysis and discussion concentrates on the interpersonal trust determinants, as well as the issues and risks regarding interpersonal trust in the CPGs.

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- ¹⁹⁷⁴ Interview with CPG User Representative 5. Case 5. Centre for Defence Acquisition. Shrivenham. 07.MAR.2011.
- ¹⁹⁷⁵ Interview with CPG Resources & Plans Officer 5. MOD Head Office. Case 5. Centre for Defence Acquisition. Shrivenham. 11.MAR.2011.
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- ¹⁹⁷⁸ Interview with DE&S Representative 5. DE&S HQ. Case 5. Bristol. 28.MAR.2011.
- ¹⁹⁷⁹ Interview with DE&S Representative 5. DE&S HQ. Case 5. Bristol. 28.MAR.2011.
- ¹⁹⁸⁰ Interview with CPG Chair 5. Capability Sponsor. Case 5. MOD Main Building. London. 12.APR.2011.
- ¹⁹⁸¹ Interview with CPG Chair 5. Capability Sponsor. Case 5. MOD Main Building. London. 12.APR.2011.
- ¹⁹⁸² Interview with CPG Chair 5. Capability Sponsor. Case 5. MOD Main Building. London. 12.APR.2011.
- ¹⁹⁸³ Interview with S&T Representative 5. Case 5. MOD Main Building. London. 31.MAR.2011.
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- ¹⁹⁸⁷ Survey Questionnaire Interpersonal trust determinants in the CPG. Response Comment, Section 2, Number 17. Centre for Defence Acquisition. Shrivenham. Dec.2011.

¹⁹⁸⁸ Survey Questionnaire Interpersonal trust determinants in the CPG. Response Comment, Section 2, Number 10. Centre for Defence Acquisition. Shrivenham. Dec.2011.

¹⁹⁸⁹ Survey Questionnaire Interpersonal trust determinants in the CPG. Response Comment, Section 2, Number 10. Centre for Defence Acquisition. Shrivenham. Dec.2011.

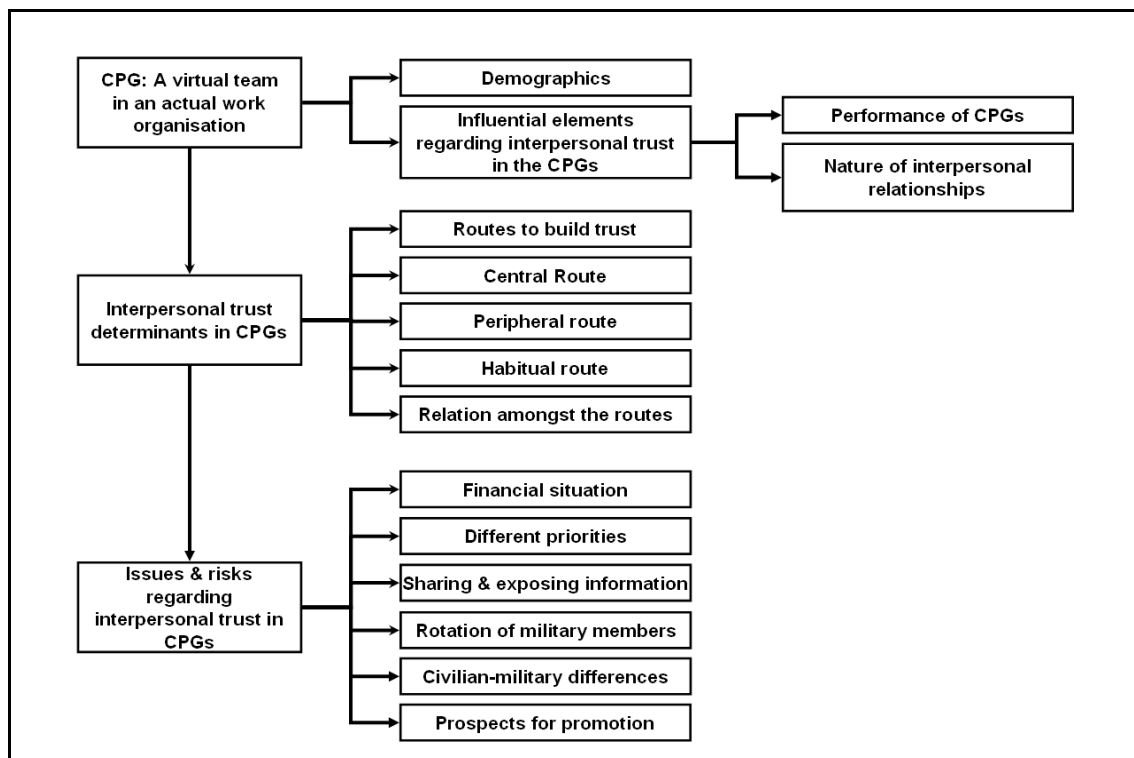
5 Integrated analysis and discussion

5.1 Introduction

As a result of the consideration of the general context of capability planning, a critical review of the pertinent literature, the subsequent conceptual framework for research established in Chapter 3 ‘Research methodology’, and the execution of the two-phase fieldwork, the exploration of the interpersonal trust determinants in VTs, within the study context, resulted in this integrated analysis and discussion. As conceived in the research framework, the exploration of the interpersonal trust determinants in VTs working in capability planning will result of an integrated view of contextual elements regarding the CPGs, the interpersonal trust determinants (RQ1), and the issues and risks regarding interpersonal trust in the CPGs (RQ2 & RQ3).

Accordingly, the second section of this chapter serves to characterise the CPG members and the degree of virtualness, as discussed in 2.2.3.7, of the CPGs. In addition, an integrated view covers influential elements pertaining to interpersonal trust in the CPGs. Further, the subsequent sections address the interpersonal trust determinants, as well as the issues and risks regarding interpersonal trust in the CPGs. These elements were extensively covered in Chapter 4, based on the evidence gathered through the two phases of fieldwork conceived. The structure of the chapter is shown in Figure 5-1.

Figure 5-1 Rationale for the structure and content of Chapter 5



Source: Author

In this chapter, the research problem is addressed through the integration of the evidence as planned in Chapter 3, with the purpose of building a perspective of the process of interpersonal trust building and maintenance in VTs, in the context under consideration.

5.2 CPG: A virtual team in an actual work organisation

Capability planning relies on CPGs to perform activity. This is important because, as discussed in 1.6.3, capability planning enables to discharge one of the three broad functions of the MOD: to establish a resourced plan to develop military capabilities. CPGs, considered as VTs, are particularly important for such a massive organisation as the UK's MOD that delivers defence capabilities through a particularly comprehensive taxonomy of capabilities as shown in 1.6.3 'The Capability Planning Process'. These teams enable the cross-functional integration of organisational perspectives, and multiple skills and competences in capability planning activity. However, the advantages of VTs come at a cost. As enunciated extensively in the literature review, although VTs offer benefits, they also create many challenges.

In the literature review, a clear need for research in a number of different areas regarding CPGs was asserted. In particular, the consideration of the different levels of virtuality, as well as the role of contextual factors (2.2.3.3) were pointed out as gap areas. In addition, the sparseness of the literature with regard to actual VTs performing meaningful tasks in organisations was argued (2.2.3.2). Consequently, in the following subsection 5.2.1 'Demographics' serves to provide a general description of the CPGs, in order to outline these 'real VTs' by means of different dimensions pointed out in the literature reviewed, or emerging from the consideration of the CPG context. Then, subsection 5.2.2. 'Influential elements regarding interpersonal trust in CPGs', addresses the perception about the performance of the CPGs in capability planning, as well as the nature of interpersonal relationships in the CPGs.

5.2.1 Demographics

The literature review identified that there was a perceived need for more contextual research work in order to understand VTs. In 2.2.3.2. 'Problems with literature', empirical investigations available are criticised for using students performing artificial tasks with unrealistic time limits. Moreover, in 2.2.3.3. 'Research is needed' the literature reviewed highlights the necessity for research in actual work organisations, exploring the degree of virtuality of the teams. Hence, in this subsection, evidence gathered about the CPGs is discussed as a means to underpin further analysis and discussion.

In the MOD, because of organisational characteristics, CPGs can be formed from people geographically dispersed in the UK, with completely different backgrounds (although all UK nationals) integrated in the MUC: HoC (Capability Sponsor), User representative (Front Line Commands), Centre representative (MOD Head Office), SIT representative and DE&S representative. Figure 4-7 'Respondents' home organisation' showed that User's and Capability Sponsor

were the organisations with major representation amongst the respondents to the survey. The low number of respondents from the S&T organisation could be related to 'connectivity' difficulties between different intranets, with different security levels, in the MOD; or because analysts or advisers who work in the Capability Sponsor organisation cover S&T roles in some CPGs. In any case, the proportion of military versus civilians amongst the respondents was 4:1. It was not possible to know if this ratio matches the whole population proportion; because, for security reasons, not all the ranks or grades of the CPG members were disclosed by the MOD, thus the evidence available is drawn from the questionnaires answered.

The time in post as CPG members of the respondents, shown in Figure 4-8 'Respondents' time appointed as CPG member', ranged between 2 and 62 months, and averaged 18 months. This aspect, tenure, will be discussed in 5.4.4 'Rotation of military members', in the section upon issues and risks regarding interpersonal trust in CPGs. Regarding the level of seniority or experience of the CPG members, the distribution of organisational categories is shown in Figure 4-9 'Respondent's Grade or Rank'. The figure 4-9 shows that people undertaking CPG activity tend to be relatively senior (86% for SO1, OF5 and above) in the hierarchical scale of the Armed Forces, as well as in the Civil Service equivalent. For example, an SO1 is likely to have served for over 15 years in the armed forces, and an OF5 (the next hierarchical rank) is in the highest rank before Commodore, Brigadier or Air Commodore (one-star position). Because of the pyramidal structure of the Armed Forces, the higher the rank the more stringent is the selection criteria for promotion. In the case of the civil servants, 'typically' a B1 would have served about 15 to 20 years.

When asked about their familiarity with 'virtual' work, described as non co-located activity (telephone, email, VTC, and use of the CPG's MOD Intranet's site); the majority of the respondents, as shown in Figure 4-10 'Respondents' familiarity with 'virtual' work', declared to have relevant experience or to be very experienced. Given the description of 'virtual' work presented in the question, it was expected that they feel confident working by virtual means, and that the low number of respondents choosing 'little experience' regarding 'virtual work' might have been referring to the use of VTC or team sites to perform their duties, rather than the other modalities indicated.

Regarding the percentage of the respondents' work time devoted to CPG activity, shown in Figure 4-11, amongst the respondents, there are people working mainly on CPG activity (18%), but for the majority of the respondents, CPG work represents a small portion of their duties in time terms (a general average of 22.5% among the respondents). As such, they have a limited amount of time to devote to it, and this activity tends not to be central in their performance assessment. In addition, about half of the time devoted to work as CPG members of a CPG involved group versus individual tasks. A similar response depicted the ratio between virtual (non co-located: telephone, email, VTC, team site) versus face-to-face work. These responses, together with the information presented in Figure 4-11 suggest understanding CPGs as VTs where most of the members devote a minor portion of their working time to the

function that they discharge in the VT. However, although CPG members tend to meet formally a couple of times per year, some of the CPG members interact through other responsibilities that they have as part of their jobs. In general, the responses suggest that there would be no pre-eminence of individual over group tasks, or of virtual over face-to-face work.

The number of CPGs attended by the respondents, shown in Figure 4-12 'Respondents' number of CPG membership', ranged from one to nine, with most of them attending one CPG, and an average of 2.2 CPGs. Further, when trying to sort the CPGs as covering capability planning areas portrayed as 'joint oriented', 'across a number of CPG's work', 'focused', or 'single environment / single service oriented', most of the respondents (67%) identified their capability planning areas as 'joint oriented' or covering 'across' a number of capability planning areas. The remaining 33% acknowledged their CPGs as covering 'focused', or 'single environment / single service oriented' capability planning areas. These responses suggest a high degree of interdependency amongst the different capability planning areas. In addition, no further correlation was found amongst the descriptors suggested for the capability planning areas that their CPGs covered. The only relation found was between 'Joint oriented capability' and 'Capability across a number of CPG's work' which reached an 11% (8 out of 72). Most of the answers covered indistinctly all the other possible combinations of the four alternatives available.

Although a number of dimensions used to conceptualise virtuality were discussed in 2.2.3.7, very few of them were found used in empirical studies to actually measure virtuality or virtualness. As depicted in this subsection, the respondents were mainly military personnel from the different MUC organisations. The majority of the respondents have been more than a year in post as CPG members, and belong to relatively high hierarchical categories, which imply that they have been a number of years in service. In addition, the majority of the respondents deemed to have relevant experience or being very experienced working by 'virtual means' as conceptualised in this research. Moreover, for the majority of the respondents CPG activity was a small portion of their responsibilities. Nevertheless, the time employed by the respondents to work as CPG members was almost evenly distributed between group and individual tasks; and virtual versus face-to-face work. Furthermore, in average, the respondents sit at about two CPGs. Finally, the responses of about two-thirds of the respondents suggest a high degree of interdependence among most of the capability planning areas.

In summary, the evidence gathered allows showing a recollection of data based on real life 'permanent, but with fluidity in membership' VTs, the CPGs. These VTs, generally described in the previous paragraphs, were studied in actual work situations, performing meaningful tasks for the organisations to which they belong. In this way, the requirement argued by Kirkman et al and Kimble et al, in 2.2.3.2 'Problems with literature', to examine ongoing virtual work teams performing meaningful complex tasks, is satisfied, within the scope of this thesis. This provides the basis to analysis and a meaningful perspective, not just for this particular research, but also for future and comparative studies.

5.2.2 Influential elements regarding interpersonal trust in CPGs

Phase I of the fieldwork concentrated on gathering and contextualising perceptions. To this end, three lines of enquiry, (as discussed in 3.5.1.2.2), were undertaken. The first one covered the exploration of influential elements, aimed to underpin the further interpretation of the data collected. Data gathered around this first line of enquiry, was organised in two clusters which are summarised in this subsection: 5.2.2.1 'Performance of CPGs in capability planning', and 5.2.2.2 'Nature of interpersonal relationships in CPGs'.

5.2.2.1 Performance of CPGs in capability planning

In general, in Phase II, as shown in Table 4-1, there was a strong support to the three trends concerning CPG performance and the elements that emerged in the cross-case analysis developed in Phase I, in 4.2.6.1 'Output 1 Influential elements'. Firstly, capability planning is perceived as undergoing a developmental process that is aimed in the right direction, although the room for improvement was deemed considerable. In addition, it is perceived that capability planning works better in forum than by virtual means, although both modes complement each other. Secondly, contextual elements pertaining to each CPG are perceived as influencing greatly CPG activity. This latter view is consistent with what was identified from the cross-case analysis, where statements with positive and negative connotation were used to describe work in the CPGs. Thirdly, capability planning is perceived as a noteworthy improvement to previous models used to plan capabilities. As such, capability planning as depicted by the CPG members, compared to previous models used to plan capabilities as: undertaking a wider perspective, emphasising a capability perspective and a through life approach, establishing clearer purposes, roles and responsibilities, and enabling a more effective and opportune integration of main stakeholders.

In addition, (as enunciated in 4.2.6.1, from the evidence in Phase I), it was clear that although reduced co-located activity eliminates part of the context, cultural aspects, and tools and information, shared to some extent, would provide, a moderating effect to the burden provided by reduced co-located activity and work context.

As discussed in 2.5, performance can be evaluated with different criteria. In the particular case of capability planning in this research, it is only available the perception of the participants, as CPG performance as such is not measured by the MOD. These perceptions, as depicted in this research, suggest that the participants show a higher level of satisfaction with the CPG processes and outcomes, compared to previous models used to plan capabilities. Thus, arguably, capability planning has improved the performance of the planning activity for future military capabilities in the MOD.

5.2.2.2 Nature of interpersonal relationships in CPGs

Regarding the nature of interpersonal relationships, in a similar manner to what was found about the performance of the CPGs, there was consistency in Phase

II, (as showed in Table 4-2), supporting the three general ideas that emerged in Phase I, (in 4.2.6.1). Firstly, capability planning requires a particular environment, 'open but guarded', for carrying out discussions with different levels of maturity through time. In this regard, the existence of smaller or focused communities, as opposed to wider communities would facilitate or constraint interaction, thus smoothing or slowing down the process of trust attribution respectively. Secondly, it is perceived that the job cycle of the desk-officers is influential to interpersonal relationships. This aspect, will be discussed further in 5.4.6 'Prospects for further promotion'. Thirdly, convergence with Phase I also was found regarding what were previously identified as the main challenges to interpersonal relationships in the CPG. These challenges were: bringing members together to develop the CPG; ensuring that new members are integrated to develop the CPG; communicating and coordinating work in the CPGs, keeping aligned understanding and individual's activity; the necessity of achieving a balance between co-located and virtual work in capability planning; and to identify and implement the adequate information technology tools to undertake capability planning activity.

In addition, (as enunciated in 4.2.6.1), it was rather clear from the evidence that the general perception about interpersonal relationships in the CPGs is that interpersonal trust enables virtual work and that all the parties' work under the fundamental aspiration of integrating the different views, at different levels, in the overarching taxonomy of defence capabilities.

5.3 Interpersonal trust determinants in CPGs

This section addresses the answer to the Research Question 1: What are the pertinent determinants of interpersonal trust in the CPG? A model taken from the literature, and adapted in Chapter 2 through the addition of a number of determinants, was examined. After the design of a research methodology discussed in Chapter 3, two phases of fieldwork were executed. Phase I resulted in a cross-case analysis that informed the second phase of the fieldwork. Both phases are covered in Chapter 4. This section presents the final analysis and discussion integrating the evidence from both phases, focused on the interpersonal trust determinants in the CPG construct.

As discussed in the literature review, (in 2.3.3 'Relevance of trust' and 2.4 'Trust in virtual teams'), a vast body of literature suggests interpersonal trust as a fundamental element for the functioning of VTs. In addition, contextual features can make every CPG essentially different. Moreover, there are intertwined issues and risks influencing interpersonal trust in the CPGs. These influences are operationalised in diverse manners and with different emphasis, arguably related to CPGs individual contexts. Furthermore, although time zones, national culture, or language (colloquial or technical) are not barriers amongst CPG members, there are structural forces that play against interpersonal trust building and maintenance in the CPGs. Furthermore, some enduring problems pertaining to the defence sector as a whole are reflected in CPG activity. These elements are addressed in section 5.4 'Issues and risks regarding interpersonal trust in CPGs'. Fundamentally, they are Financial situation, Different priorities

between organisational areas, Sharing and exposing information, Rotation of military members, Differences between civilian and military CPG members, and Prospects for further promotion.

As a result of organisational characteristics of the MOD and contextual features pertaining to the CPGs, some interpersonal trust determinants not considered in the literature pertaining to VTs emerged in Chapter 2. Because of availability of peripheral information, history can serve as a determinant. In addition, because of organisational culture and the fact that people tend to develop careers linked somehow to, or around a number of specialisations, personal identification and social bonds can crystallise as interpersonal trust determinants as well. Subsequently, the model adapted from the literature in 2.4.3 'An adapted model of trust in VTs', proposed for the particular context where CPGs are set, was confirmed in the fieldwork.

In general, as shown from now on in this section, there was consistency between the evidence gathered in the two sequential phases of the fieldwork, regarding the operation and relative relevance of the three routes to build and maintain interpersonal trust in the CPGs. Furthermore, there was confirmation of all the determinants proposed based on the Hung et al's model, for the Central and Habitual route, although some level of inconsistency was found regarding some of the determinants in the Peripheral route. Some plausible explanations are suggested in this regard.

5.3.1 Routes to build and maintain interpersonal trust

When asked about their perception regarding the operation of the routes to develop interpersonal trust, in line with the results of Phase I (4.2.6.2), in Phase II the respondents acknowledged the three routes operating in the CPG context. As it was shown in Table 4-3, the majority of the respondents endorsed the perception that the Peripheral, Central and Habitual routes are used to build and maintain interpersonal trust in the CPGs. These results (Table 4-3) were consistent with further responses ranking the relative relevance of the routes to build and maintain interpersonal trust in the CPGs, whose results were shown in Figure 4-14. Moreover, this latter result reinforces evidence gathered in Phase I, confirming the dominance of the Central route. Furthermore, the resulting ranking indicates the pre-eminence of the Habitual over the Peripheral route amongst the respondents, clarifying the perception of similar relevance amongst them suggested by Phase I. These results were consistent with the idea of relevance of personal knowledge towards the attribution of trust, and a developmental view, requiring time to work depicted by CPG members in Phase I.

5.3.2 Determinants in the Central route

There were no additional determinants proposed in the Central route. Thus, this subsection reflects the collection of confirmatory evidence pertaining to the determinants discussed in the literature review in 2.4.2.4 'Cognitive dimensions' and operationalised in the CPG context in 4.2.6.2 'Output 2 Interpersonal trust

determinants', in Phase I. In Phase II, the majority of the respondents confirmed the determinants in the Central route, as it was shown in Table 4-4, consistent with the responses about the route where they operate (shown in Table 4-3), and what was evident from the results of Phase I. Firstly, Ability, perceived as if a member 'shows the skills and competences to get the CPG job done competently', had the highest level of agreement. Secondly, Integrity, enunciated as 'sticking to one position, saying the same inside and outside the CPG' or as 'members that do what they say will do'. Thirdly, Benevolence, had a slightly lower level of agreement compared to Integrity, which in turn had a comparable 'distance' to Ability. In addition, the notion of trust fragility, particularly in relation to the Ability and Integrity determinants, depicted in Phase I was confirmed.

5.3.3 Determinants in the Habitual route

In the Habitual route, as it could be expected from the responses shown in Table 4-3 and Figure 4-14, there were different levels of agreement to expressions that operationalise the Habitual route's determinants in the CPG context. Although the three determinants in this route were acknowledged amongst the interviewees in Phase I, it was in the questionnaires, as it was shown in Table 4-5, where a number of respondents endorsed consistently the idea of the operation of the route through extensive personal knowledge.

In Phase I, it was asserted that although the Habitual route is not always operating or reached, because members change, when operating in CPGs it would rely on extensive personal knowledge, being relevant to build interpersonal trust in the CPG, when it has progressed through the other two routes. Additionally, the use of the Habitual route would be stronger between military members of the CPG. Moreover, in Phase II, Personal identification, Habit and Social bonds showed a level of agreement in this decreasing order.

5.3.4 Determinants in the Peripheral route

From the evidence in Phase I, as discussed in 4.2.6.2 'Output 2 Interpersonal trust determinants', in general, all the determinants in the adapted model proposed were acknowledged. In addition, it was apparent that the Peripheral route is perceived as having dissimilar levels of influence, ranging from very strong to influential but not necessary. Although all the peripheral determinants were recognised as applicable in the CPG context, not all of them would apply to every interpersonal relationship. In this regard, in general, two ideas were expressed: the different relevance of the determinants according to particular respondents and the different manners in which the Peripheral route could be used. The first idea is coherent with the existence of wider as opposed to smaller or focused capability planning area's communities, where the use of peripheral cues can be more difficult or easier, according to the size of the community, respectively. The second idea is coherent with the perception that the use of the Peripheral route is stronger between military members of the CPGs, although that would not be a problem if a civilian were 'capable'. Regarding this latter element, an additional consideration would be related to

the nature of the task being undertaken in the CPG, where there would be different interactions depending on the consideration of short versus long-term issues. Because, dealing with short-term issues (the most common occurrence), would require mainly interaction between the DE&S representative and either CAP, or User, or R&Ps representatives. Alternatively, the consideration of longer-term aspects would involve more the S&T member of the CPG.

Subsequently, in Phase II, as shown in Table 4-6, all the determinants were acknowledged, although there was not complete consistency with the literature reviewed and Phase I results, as in the other two routes. This had to do with two situations evident in Table 4-6 requiring further explanation. First, the higher level of disagreement than agreement to the relevance of the Rule, Category, and Disposition determinants. Second, a higher level of disagreement than agreement as well as the lowest level of agreement to Third party information, paired with a majority contradictory view about the 'colouring' of this kind of information.

In the pertinent section of the questionnaire, covering interpersonal trust determinants, questions started asking about the determinants going from the specific (the determinants, covering the Peripheral route first) to the general (the routes). Moreover, that section was different to the previous two, because it moved from information about the respondents and general factors in the previous sections, to questions that are more sensitive in nature. In particular, it started with questions about the Peripheral, and then Central and Habitual route determinants. The objective in doing so was to help the respondents to gain an understanding of the conceptualisation of the otherwise abstract routes before answering the questions about the routes' use and comparative relevance. In this regard, a plausible explanation for the low level of endorsement, which contrasted a supporting trend apparent in the Phase I, regarding Third party information, Rule, Category, and Disposition as peripheral determinants, would be the location of these more sensitive questions, which could have been perceived to have certain 'threatening', 'embarrassing' or 'socially undesirable' connotation for the respondents. This effect was foreseen, but its specific level of impact was unknown before the distribution of the questionnaire, and deemed unavoidable and part of the weaknesses of the data collection technique. In any case, anonymity was assured repeatedly (in the introductory e-mail, supporting letter, and survey), the questionnaire was pre-tested, and projective techniques aimed to lessen the psychological immediacy of the questions were used, in trying to mitigate any concerns.

In addition, there was some level of difficulty interpreting the responses regarding the Third party information determinant, because even though information from third parties was asserted as a relevant determinant in Phase I (comparable with Role, and only after History at that stage), in Phase II, it showed the lowest level of agreement response amongst the peripheral determinants, as shown in Table 4-6. Furthermore, controversially, when asking about 'colouring' this information by the perception about the source, there was a majority level of agreement.

To sum up, all the determinants proposed for the Peripheral route were acknowledged. Moreover, for the respondents, History, the determinant proposed in Chapter 2, extending the model taken as a reference, was the most relevant determinant, followed by Role, Rule, Category, and Disposition. Although Third party information showed a lower level of agreement than all the other determinants, the contradictory response to a connected question suggests that the responses could have been influenced by the nature of the question. This latter element, combined with its relative position in the survey, in relation to the routes as such, and the other routes' determinants could have influenced responses about Third party information. The results of Phase I, as well as the questions regarding the operation and relevance of the Peripheral route would be consistent with this interpretation.

In summary, In the Central and Habitual routes, the determinants suggested based on the Hung et al model, were confirmed consistent with the results of the previous phase of data collection. In the Peripheral route, results were not completely consistent with the literature reviewed and Phase I results. An explanation was provided for this.

5.3.5 Relation between the routes

This subsection reflect the collection of confirmatory evidence regarding the relation between the routes to build and maintain interpersonal trust, as discussed in the literature review in 2.4.3.1 to 2.4.3.3, for the Peripheral, Central and Habitual routes and operationalised in the CPG context in 4.2.6.2 'Output 2 Interpersonal trust determinants', in Phase I of the fieldwork.

From the evidence in Phase I, as discussed in 4.2.6.2, the three routes to build and maintain interpersonal trust were regarded as having different levels of influence and as being interconnected, crossed over or running in parallel through time, to some extent, in the CPG context. Moreover, when considered over a period of time, all the routes have a valid function; although day to day one route would be more important than another. Furthermore, consistent with the literature reviewed, perceptions about the interconnection and progression through the routes to form interpersonal trust converged towards the idea that routes act somehow, not clearly defined for the respondents, in a sequential manner. In general, the peripheral cues would underpin initial trust attribution; further, the use of the Central and Habitual routes supersedes the peripheral cues in building, maintaining and reinforcing interpersonal trust. Nevertheless, there were CPGs where different members perceived the group as developing interpersonal relationships through different routes. Subsequently, in Phase II, there was high level of support to the idea that the routes would have a different level of influence that can vary through time and that different members of the CPG would develop interpersonal trust through different routes. These responses were consistent with what was emphasised in the literature review, and confirmed in Phase I, regarding change in the emphasis of the routes operating through time, as well as some not clearly defined extent of interconnection amongst the routes, which suggest a certain level of overlap in this regard.

In Phase I, it was suggested that reaching the Habitual route would be influenced by members' personalities and by the level of interaction needed in a particular CPG. Moreover, interaction was perceived as essential, to move on to the Habitual route, and reduced interaction was associated with not reaching the Habitual route. Furthermore, small or focused communities, covering capability planning areas with low interdependence with other capabilities, enclosed stakeholders base (single service instead of joint), or small/focused specialists communities would reach the Habitual route earlier. These two suggestions were supported in Phase II. Firstly, as shown in Table 4-7, the majority of the respondents supported the idea that Peripheral's and Central's route determinants should be operating for the CPG to perform well. Secondly, as detailed in 4.3.5.3, higher levels of trust would be achieved earlier by CPGs covering smaller, or to some extent 'lowly interdependent', capability planning areas, performing effectively before other CPGs. This is depicted in the words of a respondent: 'Clearly if the CPG is single service focussed then there is a greater likelihood of Peripheral route's trust build up, but nevertheless central has a very important role; eventually habitual will dominate until the churn of membership changes the interpersonal dynamic'¹⁹⁹⁰.

In Phase I, it was suggested that most of the CPGs could reach any of the Peripheral, the Central or the Habitual route, although most of the CPGs would reach the Central route, and some of them remain using only the Peripheral route. Subsequently, in Phase II, as shown in Table 4-7, a similar portion of respondents indicated that CPGs reach the Central or the Habitual route (about 50% each), and a minor part of the respondents said that CPGs reach only the Peripheral route. In any case, the relatively high level of 'No opinion/don't know' responses, together with some levels of disagreement, suggest that it is not clear for the respondents if there is a homogeneous level of interpersonal trust in a CPG, perceived as one particular route reached by the whole CPG. This would be coherent with what has just been asserted in the second paragraph of this subsection and with effects of a further issue discussed in 5.4.4 'Rotation of military members'.

Regarding the relative relevance of the routes, in both phases of the fieldwork the Central route was pointed out as the most relevant to build and maintain interpersonal trust in the CPG. The other two routes were perceived with different relative relevance in the fieldwork phases. The Peripheral route, informing initial attribution of trust was regarded as more relevant than the Habitual route in Phase I. Subsequently, in Phase II, the Habitual route showed precedence, as it was shown in the Figure 4-14 and Table 4-7.

To sum up, from the evidence it is clear that the relative relevance of the routes established changes through time, and that they act in a sequential, although to some extent, overlapped manner. In addition, it was perceived as indispensable to establish interpersonal trust, via peripheral cues and further interaction, for the CPG to work well. Moreover, according to the respondents, general characteristics of the capability planning area covered by a CPG would influence the speed, increasing or decreasing it, at which that CPG could move forward developing interpersonal trust. When trying to ascertain through what

routes the CPGs would have progressed, some inconsistency was found regarding what routes would be reached. Most of the CPGs would reach either the Central or the Habitual route, although some of them would not progress further than the Peripheral route to build and maintain interpersonal trust. The responses suggest that it wasn't clear for the respondents if there is a homogeneous level of interpersonal trust in the CPGs to which they belong. Finally, the Central route would be the most relevant route followed by the Habitual and Peripheral in their level of relevance to build and maintain interpersonal trust in the CPG.

5.4 Issues and risks regarding interpersonal trust in CPGs

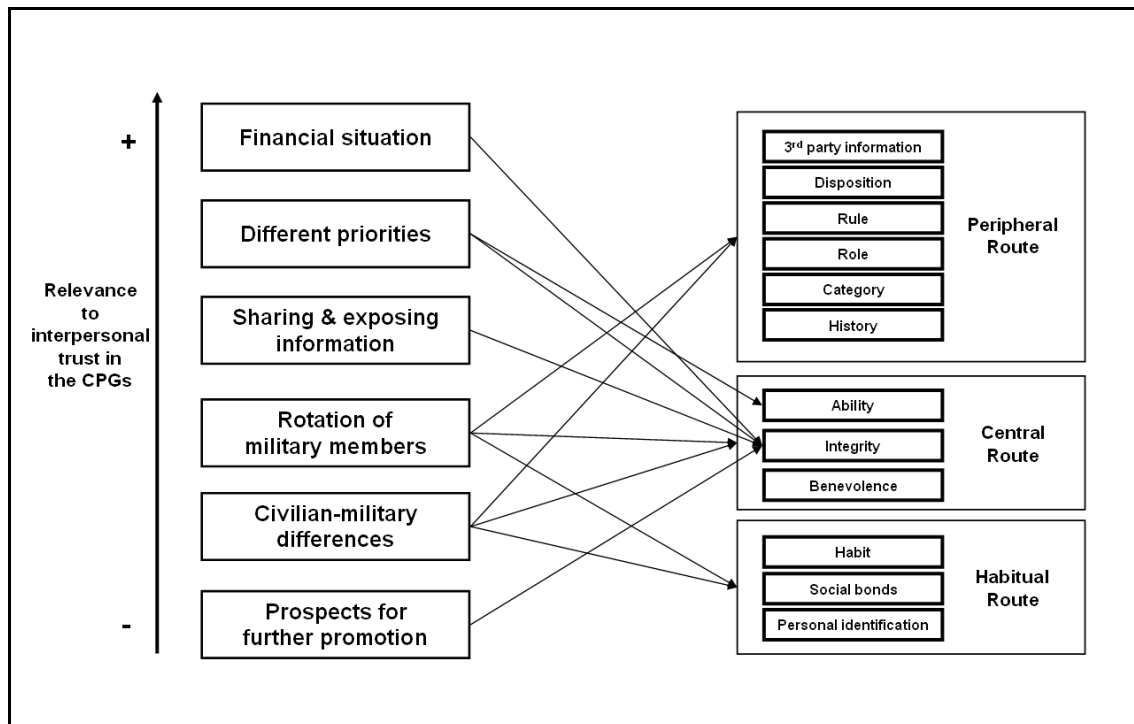
This section addresses the answer to the Research Questions 2: What, if any, are the issues surrounding the interpersonal trust determinants within the CPG? and 3: What risks are there, beyond the interpersonal relationships, which could influence the trust behaviour of CPG members? This objective is dealt with by means of this section's integrated analysis and discussion of the evidence collected through the two fieldwork phases, where issues and risks appeared as intertwined and were pulled together by the sources. As a result of the interview process, in Phase I, six elements that were perceived as salient issues or risks regarding interpersonal trust emerged. It was clear from the outset that the respondents tended to concentrate on specific factors, representing issues or risks that could influence interpersonal trust in the CPGs. However, the pertinent evidence gathered was inconsistent at times because what in some CPGs was perceived as an issue in another was a risk. Moreover, it was common occurrence that, in one CPG an element that constituted an issue for one member, for other members was a risk, or vice versa. Thus, respondents brought together some elements when explaining their views in this respect. Furthermore, it was evident, as it was shown in Table 4-8, that the most relevant issue for the respondents was an external influence, the 'Financial situation'. The remaining five elements were deemed internal. Thus, the discussion in the subsequent subsections concentrates on these six elements: Financial situation, Different priorities, Sharing & exposing information, Rotation of military members, Civilian-military differences, and Prospects for promotion. In Phase II, respondents were asked to rank their relevance, the result was shown in Figure 4-15, where they are represented from the most influential to the less influential on interpersonal trust, as perceived by the CPG members.

A summary of the results discussed in this section is shown in Figure 5-2 'Issues and risks regarding interpersonal trust in the CPGs'. In the figure, where the issues and risks identified in this research, ordered according to its relevance to interpersonal trust in the CPGs, are related to either the routes, or the determinants that they influence, as it is further developed in this section.

Although this analysis does not attempt to be prescriptive, it is expected that it will inform the design of organisational processes and systems, when improving capability planning activity, as suggested by the DCDS (Capability) in the letter attached in Appendix C. Moreover, it would be expected that the organisations that integrate the MUC, and other organisations undertaking cross-functional

activities, concentrate on the elements with major importance and pay attention to those remaining. In doing so, interpersonal trust could be stimulated and its increase would influence positively interpersonal relationships and, subsequently performance, in the CPGs. In any case, this argument should not be underestimated or restricted to VTs only, as Lurey & Raisinghani suggest that many of the issues that affect VTs are similar¹⁹⁹¹ in nature to those that affect co-located teams.

Figure 5-2 Issues and risks regarding interpersonal trust in the CPGs



Source: Author

This analysis and discussion pertaining these issues and risks is important, because, as suggested by Garrison et al, assembling a team of diverse individuals based on their unique skills and knowledge does not guarantee¹⁹⁹² team success. In general, according to Rusman et al, it is important to look specifically at trust formation problems¹⁹⁹³ in VTs in the light of increasing frequency of this format. In particular, Clark et al maintain that if an organisation wants to be successful in creating deeper¹⁹⁹⁴ trust in its VTs, it is important for the organisation to create an environment that allows trust to occur. As discussed, these issues and risks appear as relevant elements to set the context where the CPG members work. In this regard, according to Hertel et al when reviewing empirical research on VTs, context¹⁹⁹⁵ in VTs should be even more important the higher the virtuality of a team. Context is related to risk because individuals must take a risk in order to engage in trusting behaviour, and contextual factors will determine the specific potential consequences of the risk to be taken. Thus, risk is an inherent part of trust, and context will be critical in determining if a specific behaviour will be taken. Moreover, an additional element to highlight the relevance of this discussion, in the particular context

under consideration, is posed by a CPG chair's view, in the sense that risks in this respect are not managed 'in any manner'¹⁹⁹⁶. Furthermore, all these elements would be set in an MOD's context that is in the words of another CPG member 'quite compartmentalised and quite divisive at times'¹⁹⁹⁷.

5.4.1 Financial situation

As discussed in 4.2.6.3, access to critical resources is necessary to accomplish CPGs' objectives. In the CPG, where the cross-functional integration of skills and capabilities seek to balance defence policy aspirations and available resources, constrained financial resources are perceived as influencing greatly interpersonal trust. This subsection refers to the existence of two elements in this realm. First, the allocation of limited resources to competing needs. Second, the UK's MOD current environment with acute, restrictive, financial measures, with implications in terms of re-scoping programmes, the existence of suborganisations and workforce size, that have been taken and seem to be adding to it in the foreseeable future.

As discussed in 4.2.6.3, and confirmed and refined in 4.3.6.1, the struggle to save, keep or obtain critical resources has driven to a situation where organisations, and individuals that represent them in the MUC, might pursue to preserve organisational structures, or activities that might even, in extreme cases, represent the existence of their main jobs. In addition, this element appears to be related to the allocation of priorities between the different capability areas, and between different capability planning areas into a particular capability area as well. Moreover, this element of constrained resources is aggravated by single service agendas, which will be discussed in 5.4.2. Furthermore, it is also aggravated by a perceived lack of priorities in the different areas of capability, resulting in uncertainty about what capabilities to give up (put aside), in order to deliver what has to be delivered within resources. Regarding the second element mentioned, allocation of priorities, it could be seen in some harsh decisions having to be taken when de-scoping requirements, with exacerbated effects, because their impact in capability terms can be quite larger than the impact in financial terms. Because of these constraints, some behaviours that undermine interpersonal trust in CPGs, have emerged or increased. These behaviours compromise perceptions of integrity, weakening trustworthiness perceptions amongst CPG members. As a result, the continuously evolving financial situation undermines interpersonal trust, a critical element to CPG performance, that is perceived as weakening, waning the likelihood of optimising capability planning activity.

Arguably, together with 'balancing the books', setting clearer strategic direction and stating clearer priorities in terms of capabilities, the level of uncertainty that revolves around financial management could decrease and, consequently decrease strain amongst CPG members. As a result, there would be an environment more prone to foster interpersonal trust. In this regard, although not explored further, in a majority view, it would be feasible to find alternative mitigating measures, other than a radical change to the management of

capabilities as it would be changing to buy off the shelf equipment that is currently planned and developed in a bespoke basis.

To sum up, consistent with Phase I, Phase II's results, shown in Figure 4-15, suggest that the impact of the stringent financial situation faced by the MOD on interpersonal trust in the CPGs would be significant. More than any other factor, the financial situation that would obstruct access to critical resources, would influence negatively interpersonal trust in the CPGs. Furthermore, different priorities, single service agendas and lack of clear priorities would intensify this effect. Finally, to argue or speculate about the financial situation further than its mediated influence on interpersonal trust in the CPGs exceeds the scope of this research. Nevertheless, in the participants' view, it would be feasible to find alternative mitigating measures, other than radical changes to the management of capabilities.

5.4.2 Different priorities between organisational areas

As discussed in general in the review of the literature, in 2.2.2 and 2.2.4, and in particular in both phases of the fieldwork, there are two elements composing this issue that undermine interpersonal trust in the CPGs. First, the fact that CPG members represent different organisations that pursue different objectives which can diverge to some extent to other members' organisations' objectives. Then, organisations can send competing messages potentially creating discontinuities in the CPG from the outset, with different members pursuing different goals. Thus, there is a source of tension there. In this regard, single service influence was asserted as the most influential amongst the organisational perspectives represented in the CPGs. Second, CPG activity competes for time and effort with other activities that compose the whole set of roles and responsibilities that CPG members have in their home organisations. A closely related element, that is addressed further in 5.4.6 'Prospect for further promotion', is the influence that the individual's own interest can have over his behaviour in the CPG. In general, the results from Phase I and II, discussed in 4.2.6.3 and 4.3.6.2, confirm these tensions in cross-functional work, regarding CPG members' allegiances to the different organisations integrated in the MUC. In this subsection, the results from both phases of the fieldwork are to be considered in the discussion.

The first element mentioned, divergence in organisational objectives, is important to interpersonal trust in the CPGs because, as is evident from 4.2.6.3 and Table 4-10, an individual could 'push' in a particular direction because that behaviour is perceived as the best benefit for the capability being planned from his home organisation's perspective. Although, this might not be the rest of the CPG members' perspective. In addition, these divergent priorities can be operationalised affecting a programme area or a number of interdependencies with other CPGs. This situation in a capability planning context was anticipated, because, as Kramer & Lewicki suggest, most organisations tend to be highly differentiated social systems, comprised of multiple subgroups¹⁹⁹⁸, each with their own corresponding subordinate identities. Moreover, they argue that salience of subgroup identities¹⁹⁹⁹ would enhance intergroup bias and

competitive orientations, thereby undermining cooperative behaviour. Furthermore, in the context under consideration, this element is relevant to interpersonal trust because, if a member is perceived as pursuing other than overall defence benefit, supporting other 'agendas' or not being fully a person of integrity, i.e. not having only one stance regarding a given topic or issue, or not doing a task that he said he will do, the individual risks not being recognised as a trustworthy member of the team. In this situation, the perception of his integrity, the second strongest determinant in the Central route would weaken. However, as depicted in 4.2.6.3 and confirmed through the responses shown in Table 4-10, 'vested interests' could work both ways, in 'favour' or 'against' a service, when, for example, a member could tend to 'favour' his home service or, conversely, could be more 'stringent' to prevent being seen as favouring it.

The organisations integrated in the MUC have legitimately different objectives addressed to optimise their respective input in the overall defence benefit. From Phase I, it was evident that single service agendas were perceived as the strongest of the organisational perspectives concurring to the CPG. It was also apparent the perception that single service agendas have the potential to undermine overall defence benefit in capability planning activity. Single service agendas would be perceived as occasionally pursuing sub-optimal capability decisions, instead of an optimal situation represented by the greatest overall defence benefit in terms of capability.

In this regard, as shown in Table 4-11, allegiance to an individual's home service is perceived as natural and inherent to working in any joint context. In addition, single service agendas in the CPGs would be apparent when an individual participates in the production of a piece of work that may be seen as disadvantaging 'his' service. Moreover, civil servants would not be 'immune' to this phenomenon. The struggle between pursuing benefit to defence overall, or an individual's home organisation or service's interests, in the CPGs was apparent also, when respondents were asked about to whom staff primary loyalty was devoted. The majority of the respondents chose home organisation or service over defence as a whole. In addition, for the majority of the respondents single service agendas are seen as a 'divisive' element affecting interpersonal trust. In any case, behaviours driven by single service agendas are perceived as not always evident, view that is coherent with the 'caution' that would be taken by CPG members when there are individuals from other services in the CPG. However, it must be taken into account that the 25% of the respondents see their CPGs as 'Single environment / single service oriented' (Figure 4-13), and probably do not share membership with individuals from the other services, although their capability planning areas could have some level of interdependency with other CPGs' work.

In practical terms, as shown in Table 4-11, single service influence can be exerted through dominance in the staff base of a capability area, or through a service's hierarchy influencing CPG members that then would be advocates of what a service hierarchy says. The latter description of the manifestation of single service influence was almost unanimously agreed amongst the respondents. Furthermore, the conflict between the services is perceived as a

struggle to channel financial resources towards a single service's particular priorities.

Other considerations that found majority support amongst the respondents, as shown in Table 4-11, had to do with what is perceived as the importance assigned by the services to capability planning activity. Firstly, the level of core activities difficult to 'find' time to fulfil their CPG responsibilities. Secondly, there would be low attendance at CPG meetings by the members, or members replaced by delegates, or attendees sometimes lacking of adequate preparation. This situation influences interpersonal trust adversely, because it reduces even more face-to-face interaction necessary for its development through time, and weakens perceptions of ability of members poorly prepared to fulfil their role in the meetings. These two latter aspects, reduced interaction and perception of ability, were discussed in the previous section as enabling to engage in the assessment of trustworthiness, and strongly determining trust through the Central route, respectively. Thirdly, a fluctuating importance paid by the services to some capability planning areas could result in absence of clear priorities and consistency to perform CPG activity.

Regarding the second element in this section, that CPG activity competes with other responsibilities of the CPG members, as Clark et al maintain, resources²⁰⁰⁰ needed to reap the benefit of teamwork include time to complete the team tasks. Thus, from an individual perspective, there is a minimum amount of time and effort that need to be applied to fulfil the CPG role. If it were not, the input to the CPG would be insufficient, resulting in a capability planned in a suboptimal manner. This element is relevant to interpersonal trust because, if an individual is not perceived as fulfilling his role in the CPG, i.e. his input is perceived as weak or irrelevant, the other CPG members' perception about his trustworthiness, in particular ability, the strongest determinant in the Central route, would weaken.

Bal & Teo suggest that having clearly defined goals and objectives is one of the most important²⁰⁰¹ factors that contribute to successful virtual teamworking. In this regard, as discussed in the Financial situation issue, plausible measures could be setting clearer strategic direction and setting clearer priorities in terms of capabilities, together with reinforcing a 'purple' culture. These could contribute to facilitate a more positive environment to foster interpersonal trust in the CPGs. In particular, as shown in Table 4-10, an almost unanimous view, amongst the participants, was that the best thing to overcome organisational rivalries is to understand what is actually required, to understand what is policy compliant, and to understand and follow the strategic intent. In addition, when exploring perceptions about how to stimulate behaviours that pursue overall defence benefit, there was a majority support to the idea that individuals should not perceive that they could be disadvantaged in their careers if they have to go 'against' their home service interests or priorities.

In summary, tensions in cross-functional work would be reflected in CPGs by means of different priorities amongst organisations integrated in the MUC. This would be the second most influential issue or risk regarding interpersonal trust in CPGs, after the Financial situation. These different priorities are related to

members' behaviours through a number of dimensions such as core responsibilities in their own organisational structures, awareness of other capability planning areas' considerations, and role of vested interests. Moreover, among the influences that can detract from overall benefit to defence of CPG work the most salient being single services interests. In addition, some elements deemed to be key to facilitate overcoming organisational rivalries were ascertained. They were: to understand what is required, what is policy compliant, and to understand and follow the strategic intent.

Single services agendas are seen as a natural and legitimate source of different priorities, influencing mainly, but not only, military CPG members. These influences could be exerted in different manners, and are perceived as a struggle to channel financial resources according to a particular service's priorities, instead of pursuing to maximise overall defence capability. These agendas would be manifest in not always evident behaviours. Other elements to single service's priorities would be the importance to the services of capability planning activity, which would be perceived as fluctuant at times. A concrete majority of the respondents supported the idea that to stimulate pursuing overall defence benefits, individuals should perceive that their careers could not be jeopardised because of their work in CPGs.

5.4.3 Sharing and exposing information

Sharing and exposing information sensitive or confidential in nature, as discussed in 2.2.5.4, is regarded as one of the challenges that VTs have to overcome. In this regard, Gaudes et al maintain that a challenge for organisations is the management and transfer of knowledge²⁰⁰² among team individuals, as well as from the team to the organisation. Moreover, Ebrahim et al suggest that the key elements²⁰⁰³ in knowledge sharing are not only the hardware and software, but also the ability and willingness of team members to actively participate in the knowledge sharing process. Furthermore, in the capability planning realm, as discussed in 4.2.6.3 and 4.3.6.3 information is one of the critical resources to achieve CPG outcomes. Sharing information enables to achieve the cross-functional integration required for effective capability planning.

Consistent with the pertinent literature reviewed, as depicted in the cross-case analysis resulting from Phase I of the fieldwork, there are two composing elements to this issue in the CPGs. First, the deliberate withholding of information by CPG members. This element would be apparent when pursuing to protect and activity or resource to be withdrawn. Second, the extent of facilitation provided by information management systems in some CPGs is perceived as deficient by some of the members. The evidence collected in Phase II, supported the assertion of both elements.

As for the first element, in the CPG, after a period of 'getting to know the other members', individuals make judgements about to what extent they can share information and that if the information should be held close by a CPG member, it wouldn't go any further. In addition, there are different sizes of CPGs (as well

as capability planning areas' communities and stakeholder bases), which is a consideration to this. It would be easier to share information in a more reduced CPG context. In a more restricted format, an element enabling the CPG to work would be the possibility of 'pass' information to a reduced membership. Conversely, some CPGs would be such inclusive arrangements that members struggle to make decisions, tending to make discussions in a more restricted format, outside of the CPG.

As shown in Table 4-12, a number of perceptions about the use that CPG members make of information pertinent to CPG activity gathered in Phase I, were quantified and confirmed in Phase II. First, information is not homogeneously distributed in the CPGs, and it is withheld at times, as a means to protect activities or resources in a behaviour perceived by the participants as encouraged by the 'system'. In addition, perceptions about poor quality of information management systems, and a tendency for small capability planning communities to be stovepiped were considered as well. Moreover, the evidence confirmed the perception gathered in Phase I, about the definition of what information can or cannot be exposed is related to the existence of 'different priorities' as discussed in 5.4.2.

The deliberate withholding of information is influential over interpersonal trust amongst CPG members. As shown in Table 4-12, withholding information is perceived as a risk to an individual's ability and integrity (credibility). If a member is perceived not sharing some information that he might have because of his specialisation or the position that he holds in his home organisation, the perception about his integrity and ability (as perceived in CPGs) will decrease. In this regard, in a survey from consultancy to employees of multinational corporations, it was found that respondents ranked the most important characteristic of a good virtual teammate²⁰⁰⁴ the willingness to share information. In addition, Davis & Khazanchi define mutual knowledge²⁰⁰⁵ as knowledge that communicating parties share and that each party knows that they both possess. They suggest that the greater the mutual knowledge²⁰⁰⁶ within a team, the better the team performance and the quality of the final decision. Furthermore, a mutual reinforcing relationship between trust and sharing knowledge and information is suggested by Garrison et al, who sustain that VT members who do not trust are less likely to share²⁰⁰⁷ the knowledge and information which result in individual creativity and effective solutions. Thus, interpersonal trust encourages sharing information and, as discussed, sharing information nurtures the perception of integrity and ability amongst members. This becomes, in effect, a virtuous circle and is an underpinning element of trusting behaviour.

An additional consideration is the influence posed by reward structures in place. In this regard, Ferrin & Dirks suggest that cooperative reward structures²⁰⁰⁸ should motivate individuals to engage in cooperative behaviours such as sharing information because doing so is key to joint success and, hence, to get rewarded. Conversely, competitive reward structures²⁰⁰⁹ should motivate individuals to engage in a set of behaviours such as withholding information and sharing information inaccurately because these maximise one individual's

performance. In such a situation, as maintained by Rusman et al, people may just be exchanging bits of information²⁰¹⁰ without building on each other's knowledge, thus failing to take their group to collaborative knowledge construction. This consideration is discussed further in the subsection 5.4.6 'Prospects for further promotion'.

Regarding the second element pertaining to this issue, the degree of facilitation provided by information management systems, (as discussed in 2.2.5.4), overcoming technological problems is another challenge to VTs acknowledged in the pertinent literature. Although a majority view, as shown in Table 4-12, supported the idea that any 'weakness' about managing information arise from poor quality of the information management systems, this element is perceived as less influential than the other composing element of this issue. This view is coherent with Ebrahim et al who sustain that being equipped with even the most advanced technologies is not adequate²⁰¹¹ to make a VT effective, since the internal group dynamics and external support mechanisms must also be present for a VT to succeed. Accordingly, Lurey et al maintain that simply providing VTs with more advanced technology²⁰¹² when trying to improve performance, without considering the need for a much more structured formal process (compared to co-located teams), may be misdirecting resources. In any case, as discussed in the review of the literature, there is a potential for lack of knowledge of higher level technological applications related to VTs. In this regard, computer training²⁰¹³ related to more advanced skills sets may be useful in building VTs efficacy. In any case, a plausible measure in this regard could be assessing the suitability of the IT facilitation, and the training available to CPGs. In this regard, in a study about VTs, Clark et al found that VTs who received training²⁰¹⁴ in using new communication methods i.e. videoconferencing, etc. (other than email) had increased levels of trust. The results of the assessment suggested could inform the necessity of the improvement of available means or to develop further systems.

To sum up, the results from the fieldwork confirm the existence of an issue regarding sharing and exposing information in the CPGs, for a meaningful portion of the participants, as depicted in the dimensions examined and discussed. This issue is apparent and its nature tends to confirm the findings from Phase I, regarding a causative relation with 'Different priorities' and, to some extent, with reward structures and the IT facilitation available. A further consideration regarding reward structures will be discussed in a further subsection. In the research perspective discussed at the beginning of this section, organisations should concentrate on stimulating sharing and exposing information in the context of the CPGs. This would have the potential of a twofold benefit. First, an element necessary to achieve CPG goals would be available to all the members. Second, a perception of more information available or major openness, interpersonal trust would be positively influenced in the CPG. As a consequence, an increment in the level of performance should be expected.

5.4.4 Rotation of military members

As discussed in 2.2.3.2, literature on VTs represent a fragmented and incomplete body. Moreover, no one piece of literature addressing the situation of permanent VTs with fluidity in its membership was found. In general, Levin et al maintain that personnel turnover²⁰¹⁵ is one of the most daunting challenges that teams face, because it alters the distribution of knowledge within the team and the relations among the team members. Moreover, they suggest that when new members enter a team, they must acquire knowledge²⁰¹⁶ about their roles and about others' competencies and responsibilities. In this regard, Clark et al suggest that although there are sensible benefits in rotation, changing²⁰¹⁷ of team membership have been found to have a negative impact on trust and communication. This latter view is partially consistent with Levin et al who argue that turnover does not always enhance²⁰¹⁸ group and organisational performance, because it must outweigh the substantial benefits that group members derive from working together.

In any case, in capability planning activity, this issue has to do with a characteristic of military careers. Military personnel rotate along their careers through different posts. Although to a lesser extent, civilian CPG members would not be exempt of this occurrence. As shown in Table 4-13, the rate of rotation is perceived as a situation affecting mainly military, but also civilian CPG members. The average membership of civilian and military respondents was 36 and 15 months respectively (Survey Questionnaire, data analysis), that is more than double permanency of civilian members on average. For the majority of the questionnaire's respondents, it does not allow enough time to build and maintain interpersonal trust and slows down the process to gain more knowledge about each other in the CPG. In this regard, about half of the respondents' recalled it as an issue regarding interpersonal trust in the CPG. Rotation implies that CPG members have a posting cycle that start with a number of months to get familiar with their roles and responsibilities in the CPG's context. Subsequently, when they are fulfilling their CPG job positions, after a number of additional months they have to hand over the job to another person who has to go through the same cycle again. Consequently, in terms of interpersonal trust, every member that is changed has to go through the Central, and maybe reach the Habitual route to fulfil accordingly his role and responsibilities.

As a result, interpersonal trust amongst CPG members fluctuates, and there are only periods when it reaches what is perceived as a fair amount of interpersonal trust to pursue virtual teamwork. Despite that CPG leadership and secretariat are perceived as playing a meaningful role to facilitate interpersonal relationships, these discontinuities would be intensified, as mentioned in 4.2.6.3, because members change alternately, thus there will usually be members in the initial stages of interpersonal trust development, whilst others are in the most productive part of their posting. Thus, rather than influencing a interpersonal trust determinant in particular, rotation would influence interpersonal trust because the interaction that enables to build and maintain trust has to be re-started after a number of months, impacting the determinants

operating through the Central route. In addition, rotation would delay reaching the operation of the Habitual route, which enables to achieve the strongest interpersonal trust amongst CPG members.

An additional effect of rotation, shown in Table 4-13, is an arguably different approach to risks in capability planning activity, because rotating members would be less likely to stay in post when realising potential risks identified and managed previously. This is covered next, in the subsection 'Differences between civilian and military CPG members'. From the respondents' perspective, it was clear the discernment that civilians, perceived as having longer membership in the CPGs, would have a different approach to risks identified in the pertinent capability planning area, because they would 'have to live' with their potential 'realisation'. This idea had a majority support.

Arguably, a plausible measure in this regard would be to extend CPG memberships, in order to lengthen the proportion of CPG activity performed under an appropriate level of interpersonal trust. This idea has been suggested, for the MOD in general, in a recent report on the structure and management of the MOD, (Defence Reform – An Independent Report into the Structure and Management of the Ministry of Defence, June 2011), as discussed in 1.4.2. This report, although not addressing specifically capability planning, recognises as a key problem that people move too quickly from one post to another. The recommendations²⁰¹⁹ of the report were agreed and its implementation outline considers goals to achieve full implementation by April 2014. In any case, the impact of these recommendations on capability planning activity will not be known for some time, because as discussed in 1.3, 1.4.1 and 1.4.2, it can take a long period of time before realising the full impact of measures taken.

As discussed, personnel turnover represents an important challenge to VTs. In this regard, Levine et al maintain that the impact of turnover²⁰²⁰ on group and organisational performance is related to the nature and impact of membership change, which depends on factors as the kind of group involved, its status and roles systems, and the particular members involved. In addition, they discussed that groups with a history of repeated and predictable change will develop procedures for managing the disruptive effects of turnover. Regarding the duration of the postings in VTs, Dayan & Di Benedetto suggest that turnover²⁰²¹ should be kept at a minimal to accelerate the development of interpersonal trust; although there is evidence that, after a certain point, longevity can begin to have a negative impact on team performance. In any case, they maintain that interpersonal trust can be developed when team members remain²⁰²² on the team at least for a certain period of time. In this regard, Phase II gathered some evidence which support a suggestion about the minimal duration of the CPG membership to reach what is deemed, among the respondents, to be a 'fair amount' of interpersonal trust. For about 40% of the questionnaire's respondents, the rate of rotation allows enough time to build and maintain interpersonal trust (Table 4-13). Thus, it would be plausible to argue that the 40% of the respondents with longer membership could have long enough tenure in the CPG with this respect. Then, if we consider the responses when asking about the time appointed as CPG member, 40% of the respondents

have been CPG members for 17 months or more (Appendix E, Survey Questionnaire Responses). Therefore, the consideration of these responses suggest that over 17 months as a CPG member, would facilitate the reaching of a fair amount of interpersonal trust. As the effect on interpersonal trust of the rate of rotation of military members was ascertained as having big impact, it would be expectable better interpersonal trust; and consequently performance, of members that have been in post for more than 17 months. However, this was not the case for a 60% of the respondents.

In summary, the rate of rotation of military, and to some extent civilian, members of the CPGs influences building and maintaining interpersonal trust. Fluidity in membership would make interpersonal trust fluctuate along time, because periodically new members have to start developing interpersonal trust. In addition, civilian members of the CPGs would have a different, more conservative, approach to risks in capability planning, because of their more extended membership. Arguably, being in a CPG about over 17 months would facilitate to reach a fair amount of interpersonal trust, which in turn could influence positively CPG performance. This latter view about elongating CPG membership is consistent with what was also suggested in a recent report to improve MOD management and structure in general.

5.4.5 Differences between civilian and military CPG members

In general, Garrison et al suggest that trust is a critical aspect of successful VTs and that it may be hindered²⁰²³ when members perceive differences among themselves. In this regard, Powell et al maintain that factors such as commonness²⁰²⁴ of background or culture become less influential in VTs than in co-located teams. In any case, Ebrahim et al argue that high performance teams are distinguished²⁰²⁵ by passionate dedication to goals, identification and emotional bonding among team members, and a balance between unity and respect for individual differences. From the outset, in capability planning activity, participants perceive that there are differences between military and civilian CPG members. Although these differences would have low relevance, if a member is competent to fulfil his role.

These differences amongst members could exert either a positive or negative influence in VTs. In general, Duarte & Snyder suggest that amongst the types of culture that can affect VTs, functional culture²⁰²⁶ refers to assumptions and practices developed by people who work in the same functional area and share similar background in terms of education, professional goals and skills. Moreover, Chang et al maintain that cultural differences²⁰²⁷ may be reflected in differences in communications, work ethics, and approaches to problem solving among VTs and that cultural adaptation²⁰²⁸, if managed properly, reduces cultural distance and increases the communication quality, trust and performance of VTs. Furthermore, cultural adaptation²⁰²⁹ will lead to perceptions of similarity and, in turn, interpersonal attraction. In this respect, Garrison et al argue that in practice, organisations attempting to benefit from team heterogeneity²⁰³⁰ have experienced mixed results. Accordingly, a number of authors contrast²⁰³¹ advantages and disadvantages posed by diversity in

terms of synergy and perception of lack of similarities and commonalities required for trust. On the one hand, Gaudes et al maintain that diversity in VTs contributes²⁰³² to creativity and effectiveness. Moreover, evidence suggests that heterogeneous groups in which members differ on abilities, and educational and functional backgrounds, are often more creative²⁰³³ than homogeneous groups. Furthermore, cognitive resource diversity theory²⁰³⁴ proposes that heterogeneous teams are better in terms of promoting innovation, creativity, and problems solving. On the other hand, empirical evidence support the similarity-attraction paradigm²⁰³⁵, which suggests that homogeneous teams tend to be more productive based on higher levels of mutual attraction between members sharing similar characteristics.

In the UK's defence context, when trying to develop a model of the organisational culture of the British Army at the unit level, Kirke found that data²⁰³⁶ were so complex and disparate that no single set of regularities emerged. Therefore, Kirke conceptualised a number of social structures appropriated to particular types of context, with only one structure operating²⁰³⁷ at any one instant determined by the nature of the context. In this regard, Kirke proposes a loyalty/identity structure²⁰³⁸ consisting of ideas about belonging, where the level at which it is expressed is dependent on the context. Furthermore, Kirke argues that gaining awareness²⁰³⁹ of group culture and how it is manifested in different contexts will lead to a more complete perspective on the wider organisational culture. In any case, Garrison et al suggest that the challenge for organisations is to effectively manage diversity²⁰⁴⁰ in ways that augment trust and individual performance rather than detract from them.

In the capability planning context, the general perception from Phase I, regarding this differences, was that there is some level of complementarities amongst military and civilian CPG members. First, civil servants would take a more integrated perspective because they are CPG members longer, they bring to the CPG their specialised skills and competences, they keep some 'historical' knowledge about decisions taken in the past, and they perceive that they are more likely to stay in post when potential risks assessed and managed are realised. Despite 21% of the respondents in Phase II of the fieldwork were civilians, 39% supported this view, as shown in Table 4-14. Second, in a view that was strongly supported in Phase II, military members are seen as bringing into the CPG their understanding of military operations and experience from their deployments. These memberships, then, constitute primary elements to inform the planning of future military capabilities.

An additional consideration, depicted in Phase I, 4.2.6.3, and confirmed in Phase II (Table 4-14), would be the existence of stereotypes regarding 'sloppy and bureaucratic' civilians and 'just task-oriented or quite goal-focused' military members that could influence early stages of interpersonal trust building. In this regard, it is noteworthy that the strongest agreement (over 90%) was for the idea that 'overcoming prejudices, breaking down 'tribal barriers' opening the flow of communication and reception to other ideas', in this context would influence positively CPG performance.

In general, differences between military and civilian CPG members are important to interpersonal trust in the CPGs because, in the case of the civilians, individuals tend to have less 'peripheral' information available to inform the Peripheral route and there is an elongation of the time required to progress through the Central and Habitual routes. Therefore, amongst military personnel in the CPG, interpersonal trust tends to flourish quicker, as shown in Table 4-14. First, amongst military members there are more cues available to inform the determinants that operate through the Peripheral route, facilitating initial formation of trust. Second, military members would progress more quickly building trust through the Central route and subsequently through the Habitual route. In addition, there would be no one determinant influenced in a particular manner by civilian-military differences.

Although having cultural and functional differences, military and civilian CPG members share a number of similarities that contribute to their homogeneity. They are British nationals, as such they tend to share some demographic characteristics such as ethnicity, and they speak the same language. Even technical language is perceived as similar for the majority of the participants as shown in Table 4-14. CPG members tend to be male (only one woman CPG member was found when mailing the whole population of CPG members) and aged between 30 and 50 (by anecdotal evidence). In addition, they have been working for the MOD or serving the Crown for a number of years. Moreover, members of the CPGs, as British nationals, are likely to have, to some extent, relatively comparable cultural and educational backgrounds. Furthermore, by the time they are in a CPG, they appear to be generally perceived as having an adequate level of expertise to fulfil their CPG roles. Furthermore, the existence of a strict stratum because of the hierarchical nature of the organisation and a relative level of variation or cultural differences amongst the respondents suggest that in the CPGs, differences between military and civilian would not be far from a threshold to actually influence meaningfully behaviours in the CPG. This view would be consistent with the ranking shown in Figure 4-15, where 'civilian-military differences' is perceived as comparatively less influential than most of the issues identified (it averaged 1.31; Financial situation, the highest, 4.18; and Prospects for further promotion, the lowest, 1.09), over interpersonal trust in the CPGs. In any case, the differences are perceived as irrelevant by most of the participants if a military or civilian CPG members is 'really capable', as shown in Table 4-14.

In summary, differences amongst CPG members are influential on interpersonal trust; these differences could exert either a positive or a negative influence, probably depending on contextual factors pertaining to every CPG. In the UK's defence context, irregular data has been found when trying to develop a model of organisational culture in the British Army. In this regard, it is suggested that gaining awareness in this respect can lead to the elaboration of a more inclusive perspective. Moreover, the challenge would be, as suggested, to manage diversity to stimulate trust and performance. Furthermore, despite cultural and functional differences in the CPGs, there is, to some extent, comparable cultural and educational backgrounds amongst military and civilian members. In relation with what would be the meaning and implications of these

findings, it has to be emphasised that the analysis is centred on the occurrence of tendencies rather than precise values. However, the dilemmatic nature of this issue become apparent, as homogeneity versus heterogeneity in the CPGs needs to be balanced to trade off advantages and disadvantages that they entail. Thus, the evidence emerging from the tabulation of the responses from individuals engaged in CPG work depicts two sorts of members, military and civilians. Military personnel would build interpersonal trust more quickly and would have some differential characteristics.

In the respondents' majority perception, military members of the CPG would make more use of peripheral cues and would progress more quickly through the Central and Habitual routes. In addition, culture and style differences would not be generally a challenge to gain mutual knowledge. Moreover, differences are perceived as not being relevant if individuals show the right skills and competences. Regarding mutual perceptions between military and civilian CPG members, the ideas with major agreement around this issue or risk were that military and civilians bring to the CPG views that complement each other; that military members bring 'useful' experience from operations; and that differences tend to be overcome if individuals show that they are skilled and competent. Although the perceptions that military members tend to be more task orientated, and civilians tend to be more bureaucratic, had majority agreement as well.

A relevant question here, what is the degree of difference between the perceptions of the actors regarding these differences.

5.4.6 Prospects for further promotion

When considering issues and risks regarding interpersonal trust, which could influence the trust behaviour of CPG members, the organisational dilemma in the design and study of organisations, regarding the conciliation of individual's and organisation's objectives, is somehow reflected in what is brought up as prospects for further promotion.

In a review about rewards and trust, Ferrin & Dirks suggest that reward structures²⁰⁴¹ are omnipresent in work organisations, and are crucial and often flexible means through which employees are motivated and resources are allocated. As regards to teams in general, Drouin et al maintain that the reward system is the ultimate motivator²⁰⁴² that converts the team's potential into performance. Regarding VTs, Duarte & Snyder suggest as a critical success factor²⁰⁴³ for VTs to have human resource policies such as providing career opportunities and assignments comparables to those in traditional teams, and developing performance objectives that include working across boundaries and sharing information to support teamwork. Moreover, in a survey on factors that contribute to the success²⁰⁴⁴ of VTs, it was found that reward systems ranked strongly among external support mechanisms for VTs. Furthermore, Clark et al argue that rewards²⁰⁴⁵ that consider how much an individual contributes to the team effort are important, rather than basing rewards only on the team output.

In a meta-analysis of VTs' literature, Ortiz de Guinea et al suggest that most group research focuses on one-way effects²⁰⁴⁶ (from inputs to outputs) but that

researchers are calling for more attention to be paid to feedback loops. Furthermore, Bal & Teo argue that due to the unique nature of VTs, there is a need²⁰⁴⁷ for specific reward systems for VTs members.

Regarding the UK's defence context, the career reward structure of military personnel is based on the single services. This situation, as well as organisational and functional culture, encourages loyalty to the individual's own service, as it was discussed in 5.4.2. In addition, the CPG presupposes a unity of purpose across services and organisations. Therefore, although it would be a secondary consideration influencing CPG members' behaviours, there is a discontinuity in this respect.

The Confidential Report written by the CPG member's line manager in his home organisation is the element that will thrust (or not) him to get a promotion, making progress in his career. To get a good report, the individual has to perform accordingly, in the line manager's view, which is influenced potentially by his own line manager or superiors – the chain of command. The line manager would assess all the individual's core responsibilities, as well as other non-core responsibilities as it is the CPG membership. In this regard, CPG outcomes impact in the long term, thus, it might be that the CPG outcome is not information that is going to influence the line manager when assessing performance of an individual CPG member, even if he is interested in CPG activity. Furthermore, when writing the report, capability planning activity may or may not be relevant for the line manager. If it is relevant, then the line manager may be interested in the decisions being made in the CPG. If the decisions are those favoured by the line manager, he could be inclined to write a positive report. Conversely, if the decisions being made are in the opposite direction, he could be inclined to write a negative report.

Nevertheless, the scope of this enquiry encompasses the Confidential Report System (CRS), which serves to assess and promote in-service personnel. Although about 80% of the respondents to the survey questionnaire were military, as indicated in 5.2.1, there are no figures available to ascertain what the proportion of civilian CPG members is. Moreover, amongst civilians there should be a portion of civil servants as well as external advisers. Only civil servants would have a standard performance evaluation and promotion system, which is different to the CRS.

An additional consideration is CPG members' seniority. Senior people would be less influenced by prospects of promotion than more junior personnel would, particularly if they have already reached their 'career ceiling'. This consideration was strongly supported, as shown in Table 4-15. When reaching their 'career ceiling', with no prospects for further promotion, CPG members would have 'enormous freedom' to pursue their role instead of being concerned about potential negative outcomes for them; because, there would be very few risks to them and people around them, 'as long as they do their job competently and clearly in the best interest of defence'. Conversely, prospects for further promotion would have higher influence on more junior personnel, where individuals are somewhat more guarded in what they are willing to say or how they are willing to challenge. Moreover, more junior individuals would be

conscious that it is likely that the relationship between equals in a CPG could change in the future, for a superior-subordinate relationship.

Prospect for further promotion was the issue or risk reported as the least influential to interpersonal trust in the CPGs in both phases of the fieldwork. As discussed in 4.2.6.3 and confirmed in 4.3.6.6, there would be no dominant perspective as the majority of the respondents asserted, on the one hand, that prospects for further promotion does not influence CPG members relationships or behaviours; whilst, on the other, recognising that the reporting system encourages pursuing single service agendas. In addition, the highest level of agreement regarding prospects for further promotion, as shown in Table 4-15, supported the idea that CPG members act to safeguard the interest of the organisation they represent. Moreover, a majority view sustained that it would be influential but as a 'secondary consideration' as well. Furthermore, this controversy would be consistent with the trend illustrated in 4.3.4.1 'Performance of CPGs in capability planning', about the important influence of contextual elements, pertaining to every CPG, in capability planning activity. In general, the view neglecting the influence of prospects for further promotion would be coherent with altruistic behaviours dominating CPG members' conducts. However, in addition, there could be a level of underreport regarding the influence that prospects for further promotion could have on CPG members behaviours. In any case, it exerts undoubtedly a level of influence on CPG members, as it was made apparent in both phases of the fieldwork. Prospects for further promotion influences interpersonal trust because, for example, an individual trying to make a good impression to his line manager could incur in behaviours in the CPG fora that compromise other members' perception about his integrity.

One reason for the mentioned underreport could be that the propositions set in the survey questionnaire do not represent respondents' views about the behaviours alluded. Alternatively, certain level of disagreement could be related to the somehow 'threatening', 'embarrassing', or 'socially undesirable' connotation of the behaviours associated with these statements, which could have driven some level of under-report. Thus, the dimensions about this issue depicted in this research have to be considered taking into account that it is likely that the responses are biased and include an unknown level of under-report, situation that has to be considered when analysing these responses.

A number of further elements merit consideration and even further study; although they showed a high level of disagreement, or were rejected, as shown in Table 4-15. First, the idea that there would be an incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature in the future; although the long-term consequences of the decision might not be well understood at the time (50% agreement and 45% disagreement). Second, the consideration of the influence on the next job of taking bold decisions in the CPG, when close to change appointment, was rejected by the majority of the respondents as influential to CPG activity. Third, the suggestion that a CPG

member could look for 'sponsorship' from an authority level, implying a potential future payback, was generally supported.

In any case, a suggestion to HR policies here could be to assess the consideration of an input from CPG activity to the individual's career management. A relevant point in this realm would be not jeopardising an individual's career if he were pursuing overall defence benefit against what is perceived as the best interest of his own service. Additionally, to reinforce a 'purple' culture. In this regard, the report on the MOD's structure and management discussed in 1.4.2 and 5.4.4, specifically uncovered concerns²⁰⁴⁸ about perceived flaws in the career management, promotion and appointing systems, including the perceptions that these incentivise single service officers in certain areas to put the interest of their service over defence as a whole'. Moreover, the report suggested²⁰⁴⁹ to undertake a more transparent and joint career management. In any case, the full implementation of this suggestion and its effects in the specific context under consideration is not known yet. However, it should be coherent with improvements setting a career path that establish a reward structure in parallel to the services, and is part of a HR strategy that looks better at talent identification, talent reward, and how metrics can support a joint service rather than the single service outlook. Nevertheless, as discussed extensively in Chapter 1 and in 5.4.4, in capability planning activity improvements would require time and perseverance to show its potential benefits

To summarise, it is apparent from the evidence that prospects for further promotion influence the behaviours of military CPG members. In this regard, the career reward structure is not perceived as an element helping to optimise CPG activity. Moreover, controversial views were found about the operation of this sort of influence in CPG members' behaviours. In addition, the nature of this influence would be intrinsically evolutionary, changing through time as individuals move on through their careers and reach their career ceilings. Nevertheless, further examination of this particular element was inconclusive. Although some level of under-report was expected because of the nature of the specific topic, the extent of this effect cannot be estimated. In any case, the influence of prospects for further promotion on CPG members' behaviours would not be overwhelming. Finally, some further dimensions were asserted and should be considered taking into account the effect on the responses of the 'undesirable' connotation of the behaviours associated and its effect on responses: making relevant decisions without clear understanding of its long-term consequences; influence on the next job of taking bold decisions; and the search for 'sponsorship' from higher hierarchical levels.

5.5 Interpersonal trust: the implications of a view

This thesis work has developed an understanding in an integrated view of contextual elements regarding the CPGs, the interpersonal trust determinants in these VTs, and the issues and risks regarding interpersonal trust in the CPGs. Moreover, this research has been carried out in accordance with to the aim established in Chapter 1: To develop a critical analysis of interpersonal trust

determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability.

To achieve this integrated view, interpersonal relationships amongst CPG members were systematically examined. Firstly, the consideration of the general context for the planning of future military capabilities in the UK's MOD, allowed the identification of a gap in knowledge. Secondly, a critical review of the pertinent literature underpinned the identification of a specific gap in knowledge in the topic under consideration, and subsequently the assertion of the research problem and the emergence of a conceptual framework for research derived from the consideration of the literature reviewed and its interpretation. Thirdly, based on the gap identified and the research problem enunciated, and the review of the pertinent literature, a framework for research was formalised and the research methodology to be employed discussed. Subsequently, the fieldwork, executed in two successive phases, facilitated the data gathering that enabled the consideration of the interpersonal trust determinants, and pertinent issues and risks, within the context studied, and resulted in this chapter's integrated analysis and discussion.

From the outset, the consideration of the CPGs from a fundamental perspective enabled the outline of 'real VTs' by means of a number of dimensions suggested in the pertinent literature reviewed, or emerging from the capability planning context where the CPGs are set. In such a general perspective, a comprehensive picture about elements influencing interpersonal trust in the CPGs covered: the perception about performance of the CPGs, the particular organisational environment required to perform capability planning activity, the influence of where a desk officer (CPG member) is in his job-cycle, and a number of elements identified as the main challenges to the interpersonal relationships in the CPGs.

It is particularly important to emphasise that the primary elements from where the research design emerged were the result of the integration of knowledge from academia, as well as from practitioners. Moreover, the evidence was collected amongst individuals that represent the different organisational areas concurring to undertake capability planning activity, integrated under the MUC concept. Furthermore, the second phase of the fieldwork, aimed to confirm and expand the evidence gathered, (with key informants in the semi-structured interviews of Phase I), collected evidence from the whole population under consideration.

The central line of investigation in this research covered the identification and confirmation of the pertinent interpersonal trust determinants, and the exploration of issues and risks regarding interpersonal trust in the CPGs, according to the research design developed in Chapter 3 'Research methodology'. The understanding about the issues and risks was deemed necessary to appreciate the extent to which participant members are influenced by these elements and to identify and understand potential areas for improvement. In this regard, the contextualisation provided by the consideration of influential elements (as depicted in 5.2.2), one of the lines of enquiry conceived, was deemed fundamental to the understanding and interpretation of

the data gathered. Whilst it is not the purpose of this thesis work to explore in detail each of the issues and risks, it is necessary to highlight their importance in the context studied as they are at the centre of the interpersonal trust in the CPGs phenomena.

As discussed, it is not possible to conclude that the issues or risks studied are the only ones in capability planning activity. Indeed, there must be others. However, the purpose of this research was to gather evidence about issues and risks perceived as influencing or having the potential to influence interpersonal trust in the CPG context. The issues and risks observed probably would remain as they entail an external or structural character. Nevertheless, the use of VTs is considered²⁰⁵⁰ most likely to increase over time in MOD organisations; thus, the findings from the research should be useful to all personnel involved in capability planning, and other cross-functional activities. Furthermore, this research can inform²⁰⁵¹ the design of organisational processes and systems, as capability management is taken forward in the post-Defence Reform era.

Finally, this research opens a prolific field of opportunities for further research as a result of the consideration of elements emerging in this thesis work, or the deepening of aspects that have been considered from a more exploratory perspective in this novel area of interpersonal relationships in defence, in a professional, non-combat military context. Moreover, theoretical frameworks are needed to understand the different aspects of VTs in the context under consideration and to guide its development to address organisational and cultural challenges or barriers. Furthermore, while exploring these theoretical frameworks in depth is out of the scope of this thesis work, this particular issue can be of interest for further research.

To sum up, it is deemed that the primary purpose of the research has been achieved by means of the production of an original piece of research in the specific area of interpersonal trust determinants in VTs planning the development of military capabilities in a defence organisation, the UK's MOD. That is the process of interpersonal trust building and maintenance in the CPGs integrating members from the different organisations working together under the MUC's conceptualisation. Furthermore, the results of this research can contribute to narrow the gap in knowledge asserted by Kramer & Lewicki when suggesting that there remain a major lacunae²⁰⁵² in the understanding of the processes and structures that enhance trust's durability and stability within organisations. In any case, in the UK's defence context, there seems to be ample space for further research on this specific area.

5.6 Summary of the chapter

This chapter addressed the integrated analysis and discussion of the findings of the two phases of the fieldwork. The Research Questions have been discussed integrating the evidence in order to provide a fundamental understanding of the interpersonal trust determinants in VTs working in capability planning.

As conceived, the exploration of the interpersonal trust determinants in the CPGs covered initially contextual elements pertaining to capability planning

activity, the interpersonal trust determinants as such, and the issues and risks regarding interpersonal trust in the CPGs.

The next Chapter 6 present the pertinent conclusions, together with discussing the significance and value of the findings. Finally, it identifies areas for further research.

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6 Conclusions

6.1 Brief outline of the thesis

Chapter 1 contextualised and justified the topic to be researched, summarising an outline of the research and the organisation of the chapters of the thesis. In this respect, it provided the conceptualisation under which the development of future military capabilities is planned, with focus on the cross-functional work that different organisational areas in defence perform through individual representatives.

Chapter 2 presented a critical review of the literature pertinent to the topic, critically evaluating the existing body of knowledge, in order to underpin establishing a conceptual framework for the research and to demonstrate the existence of the gap in knowledge that this research addressed. As such, the review created a firm foundation for advancing knowledge, identifying areas where research exists, and uncovering areas where research is needed. In this way, a specific approach to the topic was undertaken, in coherence with the aim of the research:

To develop a critical analysis of interpersonal trust determinants in VTs, working in capability planning for the identification of capability gaps or needs, to provide required future military capability.

In Chapter 3, a framework for research was formalised and the research methodology to be employed discussed. In this regard, the chapter details the adopted research paradigm, the selected research methods i.e. the tools and techniques to gather and analyse research data, the sources of evidence and, the ethical considerations that are of significance for this research. Finally, the limitations of the research were identified as a relevant element in the definition of the scope of this research work.

Chapter 4 was organised around the two phases of the data collection and analysis stage. Firstly, it presents the key informants phase, Phase I and the report of the five CPGs studied. The subsequent cross-case analysis informed the elaboration of the survey questionnaire applied to the whole population of CPG members in Phase II. Secondly, an introduction to Phase II is followed by the presentation of the evidence gathered through the survey questionnaire around the target areas identified as a result of Phase I.

Chapter 5 developed an integrated analysis and discussion of the findings. In this chapter, the research problem was addressed through the integration of the evidence as planned in Chapter 3, with the purpose of building a perspective of the process of interpersonal trust building and maintenance in VTs, in the context under consideration. Firstly, it characterised the CPG members and the degree of virtualness of the CPGs. Then, an integrated view covered influential elements pertaining to interpersonal trust in the CPGs. Subsequently, the interpersonal trust determinants, as well as the issues and risks regarding interpersonal trust in the CPGs were addressed. These elements were

extensively covered in Chapter 4, based on the evidence gathered through the two phases of fieldwork.

This final chapter presents the conclusions by integrating the elements that underpinned the development of this research. Firstly, this brief outline of the thesis. Further, the conclusions section cover the conceptualisation of CPGs as VTs, followed by the conclusions in respect of the 6.2.1 interpersonal trust determinants, the pertinent issues and risks, and the implications of the findings. Finally, the opportunities for further research that have emerged are stated.

6.2 Conclusions

The contextual setting reflects the evolutionary development of the UK's approach to defence management of military capability. From the Smart Acquisition Initiative in 1998 up to the Defence Reform Report in 2011. Moreover, during the course of this research, a number of organisational and procedural changes occurred or were decided, although there are still some where decisions will have yet to be made. A key lesson from this situation is the need for research to underpin the overall improvement of the UK's MOD capability planning process.

In this research, it has been demonstrated that the contextualisation and the specifics about interpersonal trust determinants in the CPGs reveal some particularities that justify their methodical consideration. First, CPGs are VTs, but the particular context where they are set shows that the interpersonal trust determinants that can operate through their members' interpersonal relationships are of a particular nature. In this respect, a determinant like History, usually pertaining to the literature on co-located work, operates strongly influencing the Peripheral route to develop interpersonal trust in the CPGs. In addition, determinants like Social bonds and Personal identification, underpin the attribution of interpersonal trust through the Habitual route. Furthermore, some CPGs show characteristics that could be found in more traditional co-located settings, together with reflecting a strong organisational culture.

Consistent with the research aim, the value of this research is that it underpins a better understanding of interpersonal trust in capability planning activity amongst MOD organisations working under the MUC conceptualisation. Moreover, it has added to the body of knowledge about interpersonal trust in VTs with data and models as well as analysis and findings. In particular, examining interpersonal trust under a rationale aimed to answer RQ1, RQ2 and RQ3 has allowed the understanding of relevant aspects that are central to interpersonal trust in working together. In this respect, the research has studied elements that are difficult to explore and that cover the whole extent of the cross-organisational arrangement. In this context, interpersonal trust is manifestly appreciated in the arrangement studied, and that the pertinent issues and risks are central elements of trusting behaviour. Furthermore, the need to stimulate interpersonal trust as a means to improve performance in the CPGs, has been made explicit.

6.2.1 CPGs are VTs

CPGs are VTs that enable the cross-functional integration of organisational perspectives, skills and capabilities across defence, underpinning establishing a resourced plan to develop military capabilities. In this way, the MOD discharges one of its fundamental functions: to establish a resourced plan to develop policy.

In general, the evidence gathered showed the CPGs as real-life VTs examined in actual work situations, performing meaningful tasks. This is important, as it provides the basis for analysis and a meaningful perspective, not just for this research, but because of its originality, also for future and comparative studies.

The consideration of influential elements regarding interpersonal trust in the CPGs underpinned the further interpretation of the data gathered. Firstly, three trends emerged in respect of performance of the CPGs. Capability planning undergoes a developmental process, aimed in the right direction, although room for improvement is still considerable. In addition, contextual elements pertaining to each CPG influence greatly capability planning activity. Besides, capability planning is a noteworthy improvement when compared to previous models used to plan capability. Thus, arguably, the use of VTs has improved the performance of capability planning activity, where each CPG behaves in a particular manner. This latter argument underpins the study of particular aspects of CPGs, as there is no 'one size fits all' solution to understanding of trust in VTs. Secondly, in parallel, three general ideas emerged in respect of the nature of interpersonal relationships in the CPGs. Capability planning requires an 'open but guarded' environment to carry out discussions and interaction amongst CPG members. The location of a desk-officer in the job-cycle was depicted as influential to interpersonal relationships as well. Moreover, a number of challenges to interpersonal relationships were highlighted. Then, the general perception about the interpersonal relationships in the CPGs is that interpersonal trust enables virtual work and that all the parties' work under the fundamental aspiration of integrating their organisational perspectives, skills and competences in the overarching taxonomy of defence capabilities in the pursuit of overall defence benefit.

6.2.2 Interpersonal trust determinants

A vast body of literature suggests interpersonal trust as a fundamental element for the functioning of VTs. In this respect, contextual features were regarded as making every CPG essentially different. Moreover, intertwined issues and risks, posited by structural forces or enduring problems, influencing interpersonal trust in the CPGs, operate in different manners and with different emphasis, arguably related to the CPG's particular contextual features.

In this research, because of organisational characteristics of the MOD and contextual features pertaining to the CPGs, three interpersonal trust determinants were proposed to extend a integrated model of trust formation, Hung et al's, specially related to virtual scenarios, taken as a reference. This adapted model was consistently confirmed in both phases of the fieldwork.

The three routes to build and maintain interpersonal trust were consistently supported by the evidence gathered, asserting the dominance of the Central route, and suggesting the pre-eminence of the Habitual over the Peripheral route in the CPGs.

6.2.2.1 Determinants in the Central route

As there were no additional determinants proposed in respect of the Central route, the fieldwork collected confirmatory evidence about the determinants operating through the Central route. Consistently, in both phases of the fieldwork, Ability was pointed out as the determinant more strongly supported, followed by Integrity and, further, Benevolence. An element that was also highlighted was the notion of trust fragility, as interpersonal trust can go up and down easily, through the interaction involved in the operation of the Central route.

6.2.2.2 Determinants in the Habitual route

In this route, two additional determinants were proposed, Social bonds and Personal identification. They were acknowledged in the Phase I of the fieldwork. Nevertheless, it was in the survey in Phase II, where the idea of the operation of the Habitual route through extensive personal knowledge in the CPGs was consistently endorsed.

6.2.2.3 Determinants in the Peripheral route

In respect of the Peripheral route, the general view amongst the participants suggests that the determinants operating in this route entail different levels of relevance and are used in different manners. A consideration regarding this situation is the nature of the capability planning area, where the use of peripheral cues would be easier in smaller (or focused) areas, as opposed to wider (or joint), capability planning areas. In addition, the perception is that the Peripheral route operates stronger amongst military members of the CPGs. Although, that would not be a problem when a civilian is 'capable'. A further consideration regarding this latter situation is the nature of the task being undertaken, in terms of the consideration of short versus long-term issues.

In the second phase of the fieldwork, there was not complete consistency with the literature reviewed and the results of Phase I, as there was in the other two routes. The plausible explanation provided pointed out the location of some questions in the data collecting tool and the possible sensitive nature of these questions. This latter effect of the potential 'threatening', 'embarrassing' or 'socially undesirable' connotation for the respondents was foreseen, but its level of impact unknown, and deemed unavoidable and part of the challenges of the data collection technique. Because of this, some mitigating measures were taken in trying to lessen any concerns.

To sum up, all the determinants proposed for the Peripheral route were acknowledged. Moreover, History, a determinant proposed when extending the model taken as a reference was deemed the most relevant determinant operating through the Peripheral route in the CPGs.

6.2.2.4 Relation between the routes

The relevance of the routes to build and maintain interpersonal trust in the CPGs changes through time, and they act in a sequential although to some extent overlapped manner. In addition, similar portions of respondents indicated that CPGs reach the Central or the Habitual route, and for a minor part CPGs reach only the Peripheral route.

There was majority support to the idea that the level of interaction needed across different sorts of CPGs influenced progress in building interpersonal trust. In addition, determinants for the Peripheral and Central routes should be operating for the CPG to perform well. Moreover, interaction was perceived as essential, to move on to the Habitual route, and reduced interaction was associated with not reaching the Habitual route. Furthermore, according to the respondents, general characteristics of the capability planning area covered by a CPG would influence the speed, increasing or decreasing it, at which that CPG could move forward in developing interpersonal trust. For example, CPGs that tend to progress more quickly in building and maintaining interpersonal trust; would be those covering 'small specialists' communities', those with 'with a reduced stakeholders base', and 'single service-oriented' CPGs.

As mentioned, the Central route would be the most relevant route followed by the Habitual and Peripheral in their level of relevance to build and maintain interpersonal trust in the CPG.

Once the interpersonal trust determinants have been examined and discussed, now it is possible to articulate a view of the issues and risks within the researched context.

6.2.3 Issues and risks regarding interpersonal trust

Six elements perceived as salient issues or risks regarding interpersonal trust emerged. In this respect, the evidence showed that what in some CPGs was perceived as an issue in another was a risk. Similarly, an element that constituted an issue for one member in a CPG, for another member was a risk, or vice versa. Thus, participants brought together some elements when explaining their views in this regard. Furthermore, the most relevant issue for the participants was an external influence, the 'Financial situation'. The remaining five elements were deemed internal and were, in order of decreasing relevance: Different priorities, Sharing & exposing information, Rotation of military members, Civilian-military differences, and Prospects for promotion.

These issues and risks appeared as relevant elements to set the context where the CPG members work. Context is related to risk because individuals must take a risk in order to engage in trusting behaviour, where contextual factors will determine the specific consequences of the risk to be taken. Thus, risk is an inherent part of trust, and context will be critical in determining if a specific behaviour will be taken.

In addition, the study of these issues and risks is relevant, as the pertinent literature suggests that the consideration of trust problems in VTs, and how to increase interpersonal trust, is important when pursuing the success of VTs. In this regard, the analysis performed did not attempt to be prescriptive, it is expected that it will inform the design of organisational processes and systems, when improving capability planning activity, as suggested by the DCDS (Capability). Moreover, as stated in Chapters 1 and 2, the use of VTs is expected to continue developing and increasing through time in organisations. Furthermore, it would be expected that the organisations that integrate the MUC, and other organisations undertaking cross-functional activities, concentrate on the elements with major importance and pay attention (without neglecting) to those remaining. In doing so, interpersonal trust could be stimulated and its increase would influence positively interpersonal relationships and, subsequently performance, which in turn have a positive effect on interpersonal trust in the CPGs, becoming a virtuous circle. In any case, this argument should not be underestimated or restricted to VTs only, as many of the issues that affect VTs are similar in nature to those that affect co-located teams.

In order to perform optimally, issues or potential issues related to the determinants, need to be understood in the specific context of a given policy, and resources, time and other constraints; and addressed, making adjustments when necessary, in order to integrate successfully organisational perspectives and different skills, aiming to optimise the outcomes of capability planning. Either modifying the influential elements or taking managerial action influencing those trust determinants, with the overall aim of encouraging interpersonal trust development. Therefore, in the context of this research, if interpersonal trust determinants are not undermined; and are, rather encouraged, then trust should flourish and the trusting behaviour will be apparent.

6.2.3.1 Financial situation

Two elements are evident in this realm, the allocation of limited resources to competing needs; and the current environment with acute restrictive financial measures, with implications in programmes, organisations' structures and workforce size that have been taken and seem foreseeable in the future.

The struggle for critical resources has driven to a situation where organisations, and individuals that represent them in the MUC, might pursue the preservation of organisational structures, or activities that might even represent the existence of their main jobs. In addition, this element appears to be related to the allocation of priorities between the different capability areas, and between different capability planning areas into a particular capability area as well. Moreover, this situation is aggravated by single service agendas, addressed further in 6.2.3.2. It is also aggravated by a perceived lack of priorities in different areas of capability, resulting in uncertainty about what capabilities give up to deliver within resources.

Arguably, together with 'balancing the books', setting clearer strategic direction and stating clearer priorities in terms of capabilities, the level of uncertainty that

revolves around financial management could decrease and, as a consequence decrease strain amongst CPG members. As a result, there would be a better environment to foster interpersonal trust. In this regard, although not explored further, from the participants' perspective, it would be feasible to find alternative mitigating measures, other than radical changes to the management of capabilities.

6.2.3.2 Different priorities

Tensions in cross-functional work are reflected in CPGs by different priorities amongst organisations integrated in the MUC. In this respect, two composing elements potentially undermine interpersonal trust in the CPGs. First, members represent different organisations that pursue different objectives that can diverge to some extent from other members' organisations' objectives. Second, CPG activity competes for time and effort with other activities that compose the whole set of roles and responsibilities that CPG members have in their home organisations. A further consideration, addressed in 6.2.3.6 'Prospects for promotion', is the influence that the individual's own interest can have over his behaviour in the CPG.

Among the influences that can detract from overall benefit to defence of CPG work the most salient are the single services interests. The majority of the respondents, when asked about to whom staff primary loyalty was devoted, chose home organisation or service over defence as a whole. In this respect, elements deemed key to facilitate overcoming organisational rivalries were ascertained: to understand what is required, what is policy compliant, and to understand and follow the strategic intent.

Single services agendas, seen as natural and legitimate, influence mainly, but not only, military CPG members. These agendas would be manifest in behaviours that are not always evident in the CPGs. These influences could be exerted in different manners, and are perceived as a struggle to channel financial resources according to a particular service's priorities, instead of pursuing the maximisation of overall defence capability. Other elements to single service's priorities would be the importance to the services of capability planning activity, which would be perceived as fluctuating at times. From the participants' perspective, to stimulate the pursuit of overall defence benefit, individuals should perceive that their careers could not be jeopardised because of their work in CPGs.

6.2.3.3 Sharing & exposing information

Two composing elements to this issue, one of the challenges that VTs have to overcome, were ascertained in the CPGs. First, the deliberate withholding of information by CPG members, apparent when pursuing to protect and activity or resource to be withdrawn. Second, the extent of facilitation provided by information management systems, perceived as deficient in some CPGs. In addition, its nature suggests a causal relation with 'Different priorities' and, to some extent, the IT facilitation available. A further consideration, in respect of reward structures, is addressed in 6.2.3.6.

Interpersonal trust encourages sharing information and, as discussed, sharing information nurtures the perception of integrity and ability amongst members. This becomes, in effect, a virtuous circle and is an underpinning element of trusting behaviour.

A consideration in this respect is the size of the CPGs, (or capability planning areas' communities and stakeholder bases). It would be easier to share information in a more reduced CPG context, as in a more restricted format the possibility of 'passing of' information to a reduced membership would be an element enabling the CPG to work. Conversely, CPGs being such inclusive arrangements make members struggle to make decisions, who tend to make discussions in a more restricted format, outside of the CPG.

In any case, a plausible measure to improve performance in this regard could be assessing the suitability of the IT facilitation, and the training available to CPGs. The results of the assessment could inform the necessity of the improvement of available means or to develop further systems. In this research perspective, as discussed, organisations should concentrate on stimulating sharing and exposing information in the CPGs. This would have the potential of a twofold benefit. First, an element necessary to achieve CPG goals will be available to all the members. Second, a perception of more information available or major openness will influence positively interpersonal trust in the CPG. Consequently, an increment in the level of performance should be expected.

6.2.3.4 Rotation of military members

The rate of rotation of military, and to some extent civilian, members of the CPGs influences building and maintaining interpersonal trust. Fluidity in membership, where members change alternately, makes interpersonal trust fluctuate along time, because periodically new members have to start developing interpersonal trust. In this regard, the pertinent literature suggests that the impact of turnover on performance depends on factors as the kind of group involved, its status and roles systems, and the particular members involved. In addition, civilian members of the CPGs would have a different, more conservative, approach to risks in capability planning, because of their more extended membership.

The average CPG membership of the respondents was 36 months for civilians and 15 months for military. Arguably, being in a CPG typically at least 17 months would facilitate the reaching of a 'fair' amount of interpersonal trust, which in turn could influence positively CPG performance. This view about elongating CPG membership is consistent with what was suggested in a recent report to improve MOD management and structure, (Defence Reform, June 2011). However, there is evidence that, after a certain point, longevity can begin to have a negative impact on team performance.

A plausible suggestion in this regard would be to extend CPG memberships, in order to lengthen the proportion of CPG activity performed under an appropriate

level of interpersonal trust. This idea has been suggested, for the MOD in general, in the mentioned report on the structure and management of the MOD.

6.2.3.5 Civilian-military differences

Differences amongst CPG members can influence interpersonal trust in the CPGs, probably depending on contextual factors pertaining to every CPG. Despite cultural and functional differences in the CPGs there are, to some extent, comparable cultural and educational backgrounds amongst military and civilian members. The evidence depicts two sorts of members, military and civilians, who share a number of similarities that contribute to their homogeneity. Nevertheless, military personnel would build interpersonal trust more quickly and would have some differential characteristics. In addition, military members of the CPG would make more use of peripheral cues and would progress more quickly through the Central and Habitual routes. Conversely, civilian CPG members tend to have less 'peripheral' information available to inform the Peripheral route and there is an elongation of the time required to progress through the Central and Habitual routes. In general, however, culture and style differences would not be generally a challenge to gain mutual knowledge. Moreover, differences are perceived as not being relevant if individuals show the necessary skills and competences. In any case, the challenge in this respect would be, to manage diversity to stimulate trust and performance.

Regarding mutual perceptions between military and civilian CPG members, the ideas with major agreement around this issue or risk were that military and civilians bring to the CPG views that complement each other; that military members bring 'useful' experience from operations; and that differences tend to be overcome if individuals show that they are skilled and competent. Although the perceptions that military members tend to be more 'task orientated', and civilians more 'bureaucratic', had majority agreement as well.

In the UK's defence context, in general, irregular data has been found when trying to develop a model of organisational culture in the British Army. In this regard, Kirke, as recently as 2009, suggests that gaining awareness in this respect can lead to the elaboration of a more inclusive perspective. This is a potential subject for further research.

In relation with what would be the meaning and implications of these findings, it has to be emphasised that the analysis is centred on the occurrence of tendencies rather than precise values. However, the dilemmatic nature of this issue becomes apparent, as homogeneity versus heterogeneity in the CPGs needs to be balanced to trade off advantages and disadvantages that they entail.

6.2.3.6 Prospects for promotion

Prospect for further promotion was the issue or risk reported as the least influential to interpersonal trust in the CPGs in both phases of the fieldwork. Although there were contradictory views about its relevance, a majority view

suggests that it would be influential but as a 'secondary consideration'. The contradictory views are consistent with the perception of the influence of contextual elements, pertaining to every CPG, in capability planning activity. Thus, the influence of prospects for further promotion on CPG members' behaviours would not be overwhelming. In any case, it exerts undoubtedly a level of influence on CPG members, as it was made apparent in both phases of the fieldwork.

Although the literature suggests that reward systems ranks strongly among external support mechanisms for VTs, the career reward structure is not perceived as an element helping to optimise CPG activity. In the UK's defence context, the career reward structure of military personnel is based on the single services. This situation, as well as organisational and functional cultures, encourages loyalty to an individual's own service.

The Confidential Report written by the CPG member's line manager may enable him to get a promotion, making progress in his career. In addition, the line manager's view is influenced potentially by his own line manager or superiors (chain of command). In any case, the Confidential Report System (CRS), serves to assess and promote in-service personnel only (i.e. not civilians).

Contradictory views were found about the operation of this sort of influence on CPG members' behaviours. Although some level of under-report was expected because of the nature of the specific topic, the extent of this effect cannot be estimated. One plausible reason for the underreport in the survey questionnaire could be that the propositions set do not represent respondents' views about the behaviours alluded. Alternatively, certain level of disagreement could be related to the somehow 'threatening', 'embarrassing', or 'socially undesirable' connotation of the behaviours associated with these statements, which could have driven some level of under-report in both fieldwork phases. Thus, the dimensions about this issue depicted in this thesis were considered taking into account that it is likely that the responses are biased and include an unknown level of under-report, a situation that was considered when analysing these responses.

The nature of the influence of prospect for promotion would be intrinsically evolutionary, decreasing through time as individuals move on through their careers and reach their career ceilings when it would be least. In this respect, senior people would be less influenced by prospects of promotion. Further examination of this influence was inconclusive though.

Finally, some further dimensions were asserted when investigating this issue or risk, and should be considered taking into account the effect on the responses of the 'undesirable' connotation of the behaviours associated and its effect on responses. These were: making relevant decisions without clear understanding of their long-term consequences; influence on the next job of taking bold decisions; and the search for 'sponsorship' from higher hierarchical levels.

In any case, a suggestion for HR policies is to assess the consideration of an input from CPG activity to members' career management. A relevant point in

this respect would be not jeopardising an individual's career if he were pursuing overall defence benefit (against what is perceived as the best interest of his own service), and additionally, to reinforce a 'purple' culture. In this regard, a recent report on the MOD's structure and management (Defence Reform, June 2011), specifically uncovered concerns about perceived flaws in the career management, promotion and appointing systems, including the perceptions that these incentivise single service officers in certain areas to put the interest of their service over defence as a whole'. Moreover, the report suggests the undertaking of a more transparent and joint career management. The full implementation of this suggestion and its effects in the specific context under consideration is not known yet. However, these measures should be coherent with improvements setting a career path that establish a reward structure in parallel to the services, and is part of a HR strategy that looks better at talent identification, talent reward, and how metrics can support a joint service rather than the single service outlook. Nevertheless, as discussed extensively, in capability planning activity improvements would require time and perseverance to show its potential benefits.

6.2.4 Interpersonal trust in the CPGs – Implications of the findings

This research has allowed understanding of the process of building and maintaining interpersonal trust in VTs, integrating data provided by members from different defence organisations, in the context of military capability planning, in accordance to the aim asserted in Chapter 1. In this respect, the interpersonal trust determinants pertaining to the CPGs, as well as the issues and risks regarding interpersonal trust, were asserted. A major finding was the conceptualisation of these issues and risks, because, as discussed, they are critical in determining if a specific behaviour will be taken. The literature available on VTs reviewed does not address these contextual aspects. Moreover, these elements are deemed a central concern for future research, because of its significance as contextual variables that have to be addressed in order to stimulate interpersonal trust and, consequently, improve performance in the CPGs. Furthermore, as was made evident in the Defence Reform report, some of these are already identified as very real issues, and appear as structural or enduring problems at MOD level. In general, the issues and risks appear as interconnected to some extent; therefore, the interpersonal trust in CPGs phenomena is systemic. Consequently, the implication of this situation is that CPGs require a systemic approach.

Considering the dynamic and increasingly complex nature of capability planning activity, VTs seems to be the right approach, as they enable the cross-functional integration of organisational perspectives, skills and capabilities across defence, together with providing a clear improvement in capability planning outcomes, as perceived by the participants. Although, as has been shown in this research, VTs are not an organisational panacea and benefits have to be considered together with challenges that they impose, to ensure that any disadvantages are offset and the potential advantages are realised.

Even though the composition of CPGs is standardised, from the outset it was noteworthy that the nature and dynamics of their work can be substantially different. Although the role and responsibilities of the CPGs are similar, all of them cover different capability planning areas, with different scopes in nature, and different levels of interdependency, which can evolve through time in diverse manners. For example: the pace of development of relevant technologies, (together with its increasing availability), and the changing nature (with its applicable threat evolution rate) of the respective (to every capability planning area) present and foreseeable threats, speed of pertinent policies, or management approaches, development etc. Consequently, from a fundamental perspective, there is no right answer to solve the issues, or mitigate the risks, asserted as influencing interpersonal trust in the CPGs. It has to be done in a number of different ways, which are to some extent discussed in Chapter 5 or this final chapter. There is no final target, there is no nirvana. In brief, issues and risks influencing interpersonal trust in the CPGs can be addressed, not solved, as they seem to emerge from the very nature of military organisational culture. In addition, as discussed, because of the nature of capability planning activity, it can take a long period before realising the full impact of any measures taken.

To sum up, the issues and risks associated with such virtual trust are asserted as not believed to be a manifestation of dysfunctional strategic planning because defence organisations can have clarity of purpose, can have clear direction, and consequently send competing messages. Paradoxically, that is the weakness of being strong. The analysis suggests that action has to be taken in order to stimulate interpersonal trust, because it is important to avoid or mitigate negative effects of contextual variables influencing CPGs. To this end, it is crucial to understand the role that interpersonal trust plays in the cross-functional work that is critical for the successful integration of skills and capabilities, and to ensure that people involved in capability planning and other cross-functional activities are assisted in understanding the nature of this challenging and complex context.

6.2.5 The study framework

In Phase I, the aim of the key informants phase was to understand how interpersonal trust is generically perceived, and to provide a level of confirmation of the interpersonal trust determinants considered in the adapted model proposed. Then, the cross-case analysis allowed the integration of the data gathered around the stated lines of enquiry, in order to identify target areas to be covered in the second wave of data collection, developing the survey questionnaire. Subsequently, Phase II considered the use of survey questionnaires, in order to increase the robustness of the study and to underpin more powerful conclusions. It allowed making use of survey questionnaires advantages, confirming and providing insights about key issues identified. This design provided methodological triangulation as more than one method was used to collect and analyse the data.

From the researcher's perspective, it became clear very early that the possibility of accessing examples or reviewing internal documentation was restricted. Nevertheless, considering the evidence gathered through the interviews, it was clear for the researcher that the application of a subsequent questionnaire would satisfy the needs of the research. In addition, it was apparent that support at the highest level was necessary to obtain the level of response and richness of data required in the Phase II, in the tight timeframe of the fieldwork. Consequently, access and support was requested at the highest level possible, the Deputy Chief of Defence Staff (Capability), (DCDS(Cap)), Vice Admiral Paul Lambert who provided a supporting letter encouraging respondents to answer the survey questionnaire, highlighting the usefulness of this research, and ensuring anonymity. This support, in particular, was deemed an important element that stimulated the participants and allowed to maximise the response rate, and obtaining meaningful responses.

To sum up, it is clear that this framework can be used to study interpersonal relationships in the defence, or another, context. However, the weaknesses and strengths of the data collecting tools selected have to be carefully considered, to ensure that they provide a rich and meaningful array of evidence, in coherence with the nature of the topic and the research approach adopted.

6.2.6 Opportunities for further research

In this thesis work, a clear need for research in a number of different areas concerning VTs was made apparent. This was discussed in 2.2.3.3 'Research is needed'. In particular, limited research has been performed in the area of interpersonal relationships in VTs in defence, in a professional, managerial context. To the best knowledge of the researcher, this is the first study undertaken in the field.

In accord with these ideas, this research opens opportunities for further investigation emerging from either exploring further the relationships among the variables identified, or by deepening the examination of aspects that have been considered with an exploratory character in this thesis work.

Thus, further investigation can be pursued in a number of areas through the following relevant topics:

Organisational culture in 'Joint' environments. How it is manifest in the context of cross-organisational work in defence and the social structures that it develops.

How is knowledge transferred from one CPG to another?

To what extent is it possible to achieve shared understanding across defence organisations in the virtual environment of capability planning?

Is there one efficient rate of rotation of personnel in CPGs?

Culture when working civilian and military personnel in VTs, hinder or facilitator?

A number of further controversial elements merit further study regarding prospects for promotion: First, the idea that there would be an incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature in the future. Second, the consideration of the influence on the next job of taking bold decisions in a CPG, when close to change appointment. Third, the suggestion that a CPG member could look for 'sponsorship' from an authority level, implying a potential future payback.

How can the results of this research be exploited to design artefacts and guidelines that foster interpersonal trust in VTs?

Future research will be needed to extend the model of interpersonal trust in CPGs into areas that extend across organisational boundaries and use VTs to interact.

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APPENDICES

Appendix A

INTRODUCTORY LETTER TO THE SOURCES

Interpersonal trust determinants in virtual teams, working in capability planning for the identification of capability gaps or needs, to provide required future military capability

1. Introduction

I am Lt Col Hector Gaete, Chilean Army officer, full-time PhD student at the **Centre for Defence Acquisition, Cranfield University**. As part of my academic programme in the **UK's Defence Academy**, I am conducting research in the area of Capability Planning, with specific focus on the Capability Planning Group (CPGs) 's work as virtual teams (VTs). As the use of VTs is considered most like to continue increase over time, the findings from the research should be beneficial to all managers involved in capability planning.

a. Objective of the research

The objective of my research is to gain understanding about **interpersonal trust determinants** in the CPGs, working as VTs in capability planning for the identification of capability gaps or needs, to provide required future military capability. The approach to this empirical research, as it will analyse a body of data, is fundamentally exploratory and analytical and its ultimate goal is to contribute to knowledge in the area of capability planning in defence. It is set in the context of the cross-functional integration of skills and capabilities across defence organisations in the MOD Unified Customer (MUC). The contribution will be made by means of the production of an original piece of research, conducted in the context of the aforementioned programme in the UK's Defence Academy.

b. What is required and from whom?

In order to carry out this research, it is necessary to **gather evidence** from VTs where MUC members interact in capability planning. In particular, this information will be obtained by conducting semi-structured **interviews** with key informants and, subsequently, utilising **survey questionnaires**, with all the members of the CPGs, about experiences and lessons that have been learnt in the work in the CPGs.

c. Participation

Each interviewee volunteers to participate and may withdraw at any time. Access to the **sources of evidence** has been kept at a minimum, in order to avoid disturbance to the

work in the CPGs. In addition, the interpretation of the information by the researcher would be **subsequently submitted to the interviewees for their approval**, to ensure that it depicts their views appropriately. Also, anonymity will be given to all the participants, assuring them that they will not be identified with any of the opinions they express.

d. Confidentiality

Information with potential **confidentiality** or **commercial sensitivity** will be carefully considered and relevant regulations followed. Consequently, information beyond the level of “restricted” or commercially sensitive is excluded from the study.

This **introductory letter**, submitted to interviewees in advance, presents the topic of the research and explains details deemed relevant about definitions and concepts, as they are understood in this study.

2. Statement of the study and objective of the research

a. Statement of the study

The fundamental perspective regarding the use of **VTs in capability planning** is that organisations utilise teams to commit people with complementary skills, from different organisational or functional areas, to pursue a common goal. Moreover, because of the impacts of major drivers on increasing number of organisations, a trend has been, (and it is expected to continue), the increasing employment of VTs. Set within the UK's MOD context, this will enable undertaking of military capability planning activities in such a way as to underpin the consequent delivery of through-life military capability in a more responsive way to uncertainty, economic constraints and risk.

b. Theoretical underpinning for the research topic

See a brief statement of the theoretical underpinning for this research in **Annex A**.

c. Study framework

The study focuses on interpersonal trust determinants in the context of military capability planning work in VTs.

Initially, it concentrates on the consideration of general factors related to work in the CPGs. Subsequently, interpersonal trust determinants in VTs, and the relative importance of those determinants and difficulties on addressing them are investigated. Finally, exogenous variables, outside of the interpersonal relationship, that could potentially affect the expected behaviours of VTs members are explored.

3. Interview questions

In order to obtain the projected understanding, a set of six open-ended questions will be asked to the interviewees, to inquire about their experiences in the context of every CPG.

See the details of the interview questions in **Annex B**.

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Annex A

Theoretical underpinning for the research topic

The analysis of the pertinent literature allows consideration of a **Virtual Team** (VT) as a socio-technical system, composed of individuals who are geographically and/or organisationally, or otherwise dispersed and who interact with one another using information technologies in order to accomplish common goals (Curseu, 2006). In addition, frequently cited definitions describe VTs as cultural, professional, functional, and even nationality diverse. Shared and interdependent tasks and interdependence being a salient characteristic, with temporality and fluidity in the membership as variables also. A combination of these characteristics would define a particular team.

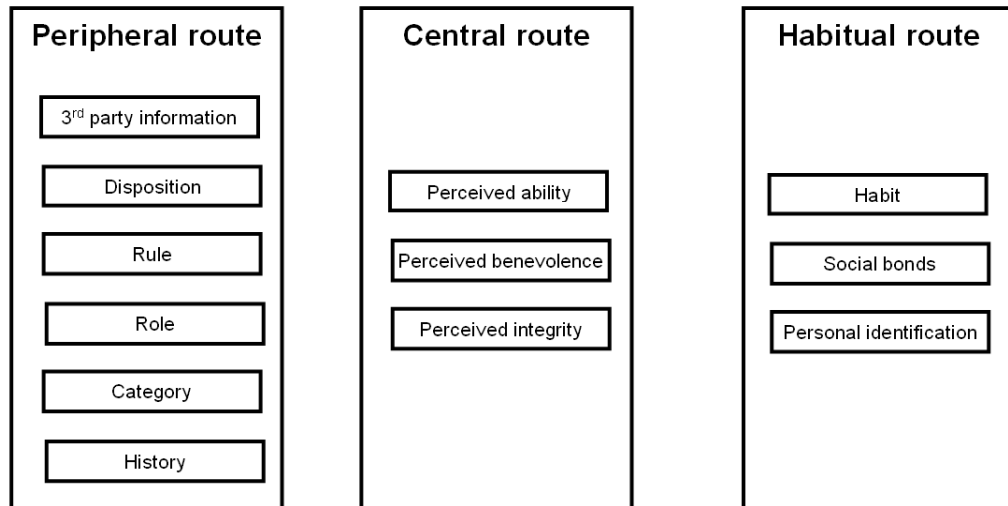
Arguably, one recurrent challenge when addressing teams, and VTs in particular is **trust**. In general, it is asserted that trust is related to a variety of positive outcomes in VTs. Furthermore, there is accumulating evidence that trust has a number of important benefits for organisations and their members.

The idea behind the use of VTs is that they overcome the geographical spread of team members and, at the same time, bring together all the different skills and perspectives required. However, members will have singular characteristics in their home organisations. Thus, in order to work together coherently, a process of **interpersonal trust development and maintenance** will be normally required.

Trust, seen in a dyadic work relationship as an individual-level construct, is the “willingness to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer, Davis & Schoorman, 1995).

In this context, it is understood that there are cognitive and affective **dimensions of trust** development and evolution through time, including elements influencing trust, prior and through personal interactions i.e. presumptive and cognitive dimensions; together with the consideration of risk in the process enabling engagement in trusting behaviour.

Interpersonal trust determinants



It is argued by Hung, Dennis & Robert (2004) that individuals form trust through three possible routes (see Figure) depending upon the stage of the trusting relationship: peripheral, central and habitual route; stating that the route an individual uses to form trust depends on his or her motivation and ability to process relevant information about other team members. Arguably, the dynamic nature of trust formation and development involves these three possible routes to trust, which represent the gradual shift of bases for trust formation over time as the individual gains personal experience and knowledge of the other parties. Furthermore, the perceived risk of the situation, as an assessment of the likelihood of significant and/or disappointing outcomes, will moderate the relationship between trust and **trusting behaviour** (the expected outcome); and may also influence the route selection to trust, where the higher the perceived risk, the more likely the central route will be used.

Annex B

Interview questions

The focus of the questions is on identifying patterns within the particular CPG, in the following areas:

1. Based in your experience, what do you believe is your role in the CPG?
2. What is your general perception about the performance of the CPGs?
3. What is your general perception about the interpersonal relationships between members in the CPG?
4. What are the factors that determine interpersonal trust in the CPG context?
5. What would be, if any, the issues that need to be addressed within the CPGs regarding the trust determinants?
6. What, if any, are the risks beyond of the interpersonal relationship which could influence the trust behaviour of the VT members?

Appendix B

Protocol for interviews

Interpersonal trust determinants in virtual teams, working in capability planning for the identification of capability gaps or needs, to provide required future military capability

1. Presentation

The interviewer introduces himself and describes how the research topic fits within the UK's Defence Academy's Center for Defence Acquisition Research Programme. Then, it is explained that before starting the interview, a summary of the introductory letter sent in advance containing details deemed relevant about definitions and concepts, as they are understood in this study is presented, and details clarified, if needed, to respondents. It is explained that the introductory letter sketches the study framework and the orientation of the research effort. In this context, information has been collected from bibliographic sources, official documents, semi-structured interviews and, in the subsequent phase of the fieldwork, through survey questionnaires.

In the summary of the introductory letter, emphasis is given to the further processing of the interview transcript and the consideration of confidentiality and any potential commercial sensitivity issues. Afterwards, the interviewer follows this protocol until the end of the interview.

2. Aim

The aim of the research is explained to respondents.

The objective of this research is to gain understanding about interpersonal trust determinants in the CPGs, working as VTs in capability planning for the identification of capability gaps or needs, to provide required future military capability.

3. Organisation and progression of the interview

The organisation and progression of the interview is explained to respondents.

The interview is organised around six successive questions, according to the conceived research framework, which connect purposes, outcomes, interpersonal relationships and interpersonal trust determinants. Finally, the interview explores issues, problems or risks outside the interpersonal relationship that could potentially affect working together coherently.

The interviewee will be asked to answer open-ended questions based on his or her experience and knowledge obtained through working in the CPG as a VT.

To conclude, the respondent will be asked, if possible, to provide or suggest additional information that in his or her view would support or complement the answers. In addition, recommendations regarding other sources and documented evidence will be asked for.

4. Outcomes of the research

The use that will be given to the evidence collected will be explained to the interviewee.

The information collected in this interview will be processed to generate evidence supporting this research work.

5. Duration of the interview

The estimated duration of the interview is informed to the interviewee.

The expected duration of the interview is about 1 hour.

6. Permission for recording the interview

The respondent is requested permission for recording the interview.

Permission for recording the interview is requested, in order to facilitate further analysis and clarification. The records will be kept in secure conditions and will not be revealed to any individual or organisation.

7. Confidentiality considerations

Confidentiality particulars are explained to the interviewee.

- a. If the interviewee deems it necessary, his or her identity will be kept anonymous.
- b. The interview records will be processed by the researcher later on, and submitted to the interviewee in order to confirm that they depict his or her views appropriately.
- c. The respondent is informed that he or she can ask for some statements to be considered as “off the record”. In that case, they will not be quoted in the thesis work.

8. Questions

The questions are asked to the respondent.

- 1. Based in your experience, what do you believe is your role in the CPG?**
- 2. What is your general perception about the performance of the CPGs?**
- 3. What is your general perception about the interpersonal relationships between members in the CPG?**
- 4. What are the factors that determine interpersonal trust in the “CPG” context?**
- 5. What would be, if any, the issues that need to be addressed within the CPGs regarding the trust determinants?**
- 6. What, if any, are the risks beyond of the interpersonal relationship which could influence the trust behaviour of the VT members?**

9. Additional comments

The interviewee is queried about additional comments or observations and to make any further request or recommendation regarding the interview executed.

The interviewee is asked about recommendation of any additional sources o information by means of individuals or documents.

Finally, the respondent is requested to be available to the interviewer to check and validate the final version corresponding to their answers and allow further clarifications if it is needed.

10. Thanks

The interviewee is thanked for his or her contribution to the research undertaken.

The respondent is thanked for his or her valuable contribution to the success of the research effort by means of the evidence / information provided.

Appendix C



Ministry of Defence

Zone F, Level 2, Main Building, Whitehall, London, SW1A 2HB

Telephone: (020) 7218 7171 Fax: (020) 7218 7850

From: Vice Admiral Lambert CB

Deputy Chief of the Defence Staff (Capability)

15 November 2011

Dear CPG member

Lt Col Hector Gaete is conducting a PhD in Defence Acquisition Management at the Centre for Defence Acquisition based at Cranfield University and the UK's Defence Academy. As part of this PhD Lt Col Gaete will be undertaking a study about interpersonal trust in virtual teams specifically focussing on relationships between CPG members.

As the use of virtual teams is considered most likely to increase over time in MOD organisations, the findings from the research should be useful to all personnel involved in capability planning, and other cross-functional activities. Furthermore, it will inform the design of organisational processes and systems as we take forward capability management in the post-Defence Reform era.

In order for this research to provide the most value to our deliberations on how to improve capability planning activity I request that you take a little time out of your busy schedules to support Lt Col Gaete's research effort; your participation will be extremely useful for us.

As is often the case with academic research, your anonymity will be preserved and your specific answers will not be divulged.



Vice Admiral Paul Lambert CB
Deputy Chief of Defence Staff (Capability)

Appendix D



SURVEY QUESTIONNAIRE

Interpersonal trust determinants in the CPG

The objective of this survey is to gather information about interpersonal trust in the context of capability planning activity, focused on three elements:

- a. Influential elements regarding interpersonal trust in CPGs
- b. Interpersonal trust determinants in CPGs
- c. Issues and risks regarding interpersonal trust in CPGs

The questionnaire queries are based on a first wave of data collection carried out between a number of CPGs, across different capability areas. This was complemented by a review of bibliographic sources and official documents. Overall, this research is the product so far of two years of full-time study in an academic programme at the Centre for Defence Acquisition in the UK's Defence Academy.

Information with potential **security** or **commercial sensitivity** is excluded from the study whose objective is essentially academic. However, every piece of information will be treated as of '**restricted**' level. The information collected through this questionnaire will generate evidence supporting this research work. Any records will be kept in a safe place, in a secure facility, and will be destroyed once the research examination is completed.

YOUR answers will not be divulged and will be treated with stringent confidence. There will be no way to associate any opinions expressed with individuals.

Maximum effort has been made to maintain the questionnaire length to a minimum, without missing essential elements of information.

YOUR individual view is asked for, so please do not discuss with third parties before you have completed the questionnaire.

Please answer the questions considering your **activity regarding CPGs only**, the focus of this research is on these 'virtual', non co-located, cross-functional groups.

YOUR participation is extremely useful for us. The researcher strongly appreciates the time you are taking out of your busy schedule to support this research effort.

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Section 1 Demographics

Please tick on the boxes or write on the spaces provided

- 1) What is your background?
Military ☐
Civil Servant ☐
Retired military ☐
- 2) What element of the MOD Unified Customer (MUC) do you represent in the CPG?
MOD Head Office ☐
Capability Sponsor ☐
User ☐
DE&S ☐
S&T ☐
- 3) How long ago were you appointed as member of your CPG?
_____ years and _____ months
- 4) What is your MOD Grade/Rank?
Up to & including SO2 ☐
SO1 ☐
OF5 & above ☐
- 5) How familiar are you with 'virtual' work (non co-located: telephone, email, VTC, team site)?
Have little experience ☐
Have relevant experience ☐
Very experienced ☐
- 6) What percentage of your work time is devoted to CPG activity? _____%
- 7) What percentage of the time devoted to your work as member of a CPG, involves group versus individual tasks?
CPG Group tasks _____%
CPG Individual tasks _____%
- 8) What percentage of the time devoted to your work as member of a CPG, is virtual (non co-located: telephone, email, VTC, team site) versus face-to-face?
CPG Virtual (non co-located) work _____%
CPG Face-to-face work _____%
- 9) The next sentences apply to your CPG (tick as necessary):
The CPG to which I belong plans a joint oriented capability ☐
The CPG to which I belong plans a 'focused' capability ☐
The CPG to which I belong plans a single environment/service oriented capability ☐
The CPG to which I belong plans a capability across a number of CPGs' work ☐
- 10) How many CPGs do you sit at? _____

Section 2 Influential elements

Please answer based on your experience in the context of the CPG in which you work

Please tick on the boxes

11) Performance of CPGs in Capability Planning	Strongly agree								Strongly disagree	No opinion / Don't know
Capability planning activity is ' a lot better ', compared to previous models used to plan capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning undertakes a wider perspective, compared to previous models used to plan capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning emphasises a capability perspective and a through life approach, compared to previous models used to plan capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning establishes clearer purposes, roles and responsibilities, compared to previous models used to plan capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning enables a more effective and opportune integration of main stakeholders, compared to previous models used to plan capabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning is undergoing a ' developmental process ', aimed in the right direction, although the room for improvement is considerable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability planning works best in forum rather than by virtual means, although both modes complement each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contextual elements pertaining to each CPG influence greatly CPG activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Nature of interpersonal relationships in CPGs	Strongly agree								Strongly disagree	No opinion / Don't know
Capability planning requires an environment for open, but guarded discussion , ensuring that ideas or proposals won't be widely disseminated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To what extent the virtual context facilitate or make more difficult interpersonal relationships, is related to where the desk officer is in his job-cycle (initial / final)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The following elements represent challenges to interpersonal relationships in the CPG:										
Bringing members together to develop the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensuring that new members are integrated to develop the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicating and coordinating work in CPGs, keeping aligned understanding and individual's activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The necessity of achieving a balance between co-located and virtual work in capability planning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To identify and implement the adequate information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

technology tools to undertake capability planning activity

Section 3 Interpersonal trust determinants

Please answer based on your experience in the context of the CPG in which you work

Please tick on the boxes or write on the spaces provided

Relevance of the determinants to build and maintain interpersonal trust

13) Peripheral route

Interpersonal trust before interaction in the CPG

Strongly
agree

Strongly
disagree

No opinion /
Don't know

In the CPG, people tend to assess trustworthiness of new CPG members through information from third parties that they know

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The information provided by third parties is 'coloured' by the perception about the subject source, and his potential bias towards the subject of his comments

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust new CPG members, even if they don't know them, because they have a natural propensity to trust

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people that have had a positive experience ('history') in the past working with a new CPG member, tend to trust him from the outset

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people that have had a negative experience ('bad history') in the past working with a new CPG member, tend to distrust him from the outset

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust new CPG members, because if they are chosen to represent their home organisations, they must be good at their job

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust new CPG members, because they work for the MOD and so they behave following some 'explicit and tacit rules'

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust new CPG members, because they have reached certain ranks and so they act according to some 'general principles and practices'

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

14) Central route

Interpersonal trust through interaction in the CPG

Strongly
agree

Strongly
disagree

No opinion /
Don't know

In the CPG, people tend to trust members who show themselves to have the skills and competences to get the CPG job done competently

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust members who stick to one position, saying the same inside and outside the CPG

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust members who do what they say will do

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust members who show care and concern about the others, displaying willingness to do good for the other CPG members

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The skills and competences of the members are generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The integrity of the members is generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

15) Habitual route

Interpersonal trust after extensive interaction in the CPG Strongly agree Strongly disagree No opinion / Don't know

In the CPG, people tend to trust other members because of the tight social bonds they have developed ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust other members when they have accumulated personal knowledge, and they understand their needs, preferences and priorities ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPG, people tend to trust other members because there is a 'regular pattern' of trusting behaviour by members ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

16) Relative relevance and relation between the routes to interpersonal trust

Peripheral route

Interpersonal trust before interaction in the CPG Strongly agree Strongly disagree No opinion / Don't know

In the CPG, people tend to trust other CPG members based on what they already know before interaction in the CPG context ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Central route

Interpersonal trust through interaction in the CPG

In the CPG, people tend to trust other CPG members when they have already had the opportunity to work with them and then have assessed them ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Habitual route

Interpersonal trust after extensive interaction in the CPG

In the CPG, people tend to trust other CPG members even more, if they have a mature relationship and they have gained more knowledge about each other ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Relation between the routes – General

Strongly agree Strongly disagree No opinion / Don't know

When considered over time, all the routes (Peripheral, Central and Habitual as explained above) have a function; although day to day one can be more important than another ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

It is necessary to go through the Peripheral and Central route in order for the CPG to work well ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Progressing in building interpersonal trust through the routes is influenced by the level of interaction needed across a particular CPG to get the job done ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Interpersonal trust between CPG members is fragile...
It can go up and down easily ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Different members of the CPG develop interpersonal trust through different routes ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most of the CPGs reach the Habitual route to build interpersonal trust ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most of the CPGs reach the Central, but not the Habitual route to build interpersonal trust ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most of the CPGs reach only the Peripheral route to build interpersonal trust, without moving into the Central or Habitual routes ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

CPG members tend to progress building and maintaining interpersonal trust **earlier** in (tick as necessary):

CPGs with lower interdependence with other capabilities ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

CPGs with a reduced stakeholders base ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

CPGs related to a small specialists' community ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Single service-oriented CPGs (ex: Above Water) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Joint-oriented CPGs (ex: ISTAR) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

17) Please rank the relevance of the three routes mentioned, to build and maintain interpersonal trust in the CPG, (1 most important, to 3 least important)

Peripheral route : Interpersonal trust before interaction in the CPG _____

Central route : Interpersonal trust through interaction in the CPG _____

Habitual route : Interpersonal trust after extensive interaction in the CPG _____

Do you have any comments about Interpersonal trust in the CPG?

Section 4 issues and risks regarding interpersonal trust

Please answer based on your experience in the context of the CPG in which you work

Please tick on the boxes or write on the spaces provided

18) Issues and risks - General	Strongly agree								Strongly disagree	No opinion / Don't know
The 'biggest pressures' to CPGs, influencing interpersonal trust, are always going to be external	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risks regarding interpersonal trust are not managed 'in any manner'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19) Rotation of military members	Strongly agree								Strongly disagree	No opinion / Don't know
The rate of rotation of military members of the CPG does not allow enough time to build and maintain interpersonal trust in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The rate of rotation of military members of the CPG slows down the process to gain more knowledge about each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The rate of rotation of civilian members of the CPG is an issue regarding interpersonal trust in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Longer membership by civilians in the CPG encourages them to have a different approach to risk because they are more likely to stay in post when risks are realised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20) Civilian-military differences	Strongly agree								Strongly disagree	No opinion / Don't know
Military members of the CPG tend to attribute trust to new CPG members through what they already know before interaction in the CPG context, <u>more than</u> the civilians members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Military members of the CPG tend to trust each other more quickly when they have already had the opportunity to work and assess each other, <u>compared to</u> civilian members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Military members of the CPG tend to progress more quickly to develop a mature interpersonal relationship, fostering trust, <u>compared to</u> civilian members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Differences between military and civilian CPG members pose 'challenges' to the gaining of more knowledge about each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The civilian-military differences are irrelevant if a civilian is really capable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The civilian-military differences are irrelevant if a military officer is really capable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Civil servants in the CPG tend to take a more 'integrated' perspective about interdependencies in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

capability planning, considering other tasks that they may be aware of, where there could be some conflict

Military members of the CPG bring 'fresh, very useful' operational experience from deployed operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Civil servants in the CPG tend to be more bureaucratic than their military counterparts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Military members of the CPG tend to be more task oriented than their civilian counterparts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Military and civilians bring to the CPG views that complement each other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are no cultural and style differences between civilian and military members in a CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To perform better, it is necessary to 'overcome prejudices', breaking down 'tribal barriers' opening the flow of communication and reception to other ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the CPG all the members use the same technical language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21) Financial situation

Strongly agree

Strongly disagree

No opinion / Don't know

Constrained financial resources are a permanent consideration which drives the devising of 'options', 'everything CPGs do is driven by the financial situation'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial constraints set tight saving objectives on CPGs. As decisions being considered impact the services, restrictions influence negatively interpersonal trust at working level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unforeseen cuts in resources and subsequent adjustment measures, negatively influence interpersonal trust in the CPGs, when requirements have to be re-scoped to deliver some form of capability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resource issues drive Centre staff as they attempt to save money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resource issues drive Capability staff as they attempt to save money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The financial situation is an issue related to the allocation of priorities across different capability areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The financial situation is an issue between CPGs in the same capability area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The impact of the financial situation is aggravated by lack of priorities in different areas of capability, without clarity about what capabilities give up to deliver within resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of priorities at inter-capability area level, undermines interpersonal trust in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constrained financial resources is an issue, about which nothing can be done unless the capability management process changes to 'just buy off the shelf'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22) Different priorities	Strongly agree							Strongly disagree	No opinion / Don't know
Different priorities emerge from different views brought into the CPG: a capability view, a single service view, whether a support or science view, a money view, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The existence of different priorities is 'a constant problem' that undermines interpersonal trust in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People can take a decision in the context of a program area or a CPG, ignoring the assumptions, risks and issues that may have an impact on another CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
'Vested interests' could work both ways, in 'favour' of an individual's home allegiance, or 'against' a service when trying to demonstrate being 'purple', for example.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional constraints come into the CPG from individuals' own organisational structures, because there is a limit to what people can really follow through.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interpersonal trust is an element that helps to surmount diverging priorities of CPG members, helping them to work around those influences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The best thing to overcome organisational rivalries and to foster trust is (tick as necessary):									
To understand what is actually required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To understand what is policy compliant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To understand and follow the strategic intent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The following influences detract more from the overall benefit to defence of CPG work (tick as necessary):									
Other CPGs' interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FLCs, Single services interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specialists communities, please give name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>									
DSTL interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DE&S interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cap Sponsor interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOD Head Office interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23) Different priorities – Single service agendas	Strongly agree							Strongly disagree	No opinion / Don't know
CPG members have a natural allegiance to their own service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single service agendas are inherent to any joint environment, project, or even a joint job, so they are present in CPGs. They are 'a fact of service life'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The struggle between service agendas is an expression of interests to gain financial resources, and direct them according to particular priorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single service influence is the biggest issue regarding interpersonal trust in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Single service agendas affect interpersonal trust in the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CPG, because they are really 'divisive'

Civilian CPG members are 'immune' to single service agendas ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Behaviours driven by single service agendas are not always clearly evident in the CPG, 'in joint areas... you believe they are operating to another authority' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

If there were members from the other services in the CPG an individual would be more 'cautious' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Single service influence can come from a service's hierarchy, denominating 'vital ground', 'platforms that we want to keep'; 'things that we will not lose', and then the individual 'would be an advocate for those types of capabilities' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Single service influence could be exerted through one service dominant in the staff base of a capability area, endorsing what the hierarchy in that service says ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Single service influence would be apparent when one individual participates in the production of a piece of work that 'may be seen as disadvantaging his service' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

An individual should be certain that the 'system' would not disadvantage him in his career when making decisions that 'go against what is perceived to be the way he should be voting', when he is pursuing overall defence benefit ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Changes to importance paid by the services to a CPG's planning area introduce difficulties in terms of absence of clear priorities and consistency to perform CPG activity ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Lack of importance of some CPG's activities to the FLCs, is reflected in low attendance at CPG meetings, with members replaced by delegates; or members attending without adequate preparation ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the MoD everybody is very busy. It is extremely difficult to find some time to perform CPG duties ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In the CPGs, staff primary loyalty is to...

Defence as a whole ☐

Home organisation or service ☐

No opinion / Don't know ☐

24) Sharing and exposing information

Strongly agree

Strongly disagree

No opinion / Don't know

Withholding information is the degree to which, information is declared late, or people aren't properly consulted; as opposed to when people are open ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Withholding information is a way to protect an activity or resource, in a behaviour encouraged by the 'system'. Avoiding revealing an individual's 'full hand', or the full extent of a project, may help to protect it ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Elements of withholding information between CPG members 'do occur, but tend not to be too bad when ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

getting into bigger decisions'

In many areas, information 'has been used against, those who provide it' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

CPG members are averse to passing some information to someone they aren't sure would use it correctly ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Different priorities will determine what information can or cannot be exposed ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Withholding information is a risk to a CPG member's credibility (ability plus integrity) ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Individuals perceived by the group as not being open, or pursuing other interest, risk not being seen as a trusted part of the group anymore ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Withholding information is an issue, 'the single most damaging thing', regarding interpersonal trust in the CPG ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Interpersonal trust stands as a 'fundamental factor' for the functioning of CPGs, facilitating the flow of information necessary to accomplish CPG goals. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Any 'weakness' about managing information arises from the poor quality of information management systems that make it difficult to find relevant data, not due to people deliberately withholding information. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

If a CPG belongs to a small community, its members tend to be stovepiped from a defence perspective ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Some CPG members manage much more information, having a clearer perspective than other members ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The possibility to share information in a more 'restricted' format allows CPGs to work; a member doesn't have to pass compromising information to everyone. Thus, people that 'wouldn't need to know can be left out, until you are in a position to have the information tested in a wider context.' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

There are situations where the CPG construct can undermine decision-making, because the CPG is such an inclusive arrangement that members struggle to make decisions as they tend to do discussions outside the CPG in a more 'restrictive' format ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

There is a tendency to share information bilaterally, thus often the whole group is not included and some members may miss out on information ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The constant struggle to obtain information plays against the formation of trust ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

25) Prospects for further promotion

Strongly agree

Strongly disagree

No opinion / Don't know

The reporting chain influences the behaviour of military CPG members, because it decides whether they get promoted or not. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

In practical terms, individuals don't like 'to irritate' the person who writes his report, or the person whose writes his either'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Those working in the CAP areas need to be careful about what they say in case it affects their careers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The report system encourages pursuing single service agendas, 'nobody gets promoted by the joint system because there isn't one, is a single service system'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is trust between everybody in the CPG, but only to a certain extent, because everyone is aware that the other members are under their own pressures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prospects for further promotion drive controversial behaviour in the CPG, where a member's appraisal might say he did very well because he followed the desire of his line manager, even though this could have been in opposite direction to the CPG's opinion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An element to the 'career aspect' is the interest of the individual's chain of command, or how driven the members of the chain are by the outcomes of the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The 'career aspect' doesn't influence interpersonal relationships between CPG members, because, they are not pursuing self-interest, they wish to make defence the best it can be	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in the CPG act to safeguard the interest of the organisation they represent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The prospect of further promotion is a 'secondary consideration', because behaviour in a CPG is not heavily influenced by how a member's career might be affected	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CPG activity plays a minor part in overall CPG members' performance evaluation, it doesn't make 'an awful lot of difference'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The prospect of further promotion plays a part at higher levels, above CPG. But, not in the CPG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature five, ten years downstream, although the long-term consequences of the decision might not be well understood at this time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individuals look for sponsorship from a given authority level, 'a power of patronage', from a person that in the future, 'is going to be in a position of authority... that it's going to payback'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prospects for further promotion have higher influence on more junior personnel, where individuals are somewhat more guarded in what they are willing to say or how they are willing to challenge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In small 'capability communities', more junior individuals are conscious that it is likely that the relationship between equals in a CPG can change in the future, for a superior-subordinate relationship ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

When members reach their 'career ceiling', they don't worry about perception from senior people so much, because 'as long as they do their job competently and clearly in the best interest of defence, there are very few risks to them and people around them' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

The lack of prospects for further promotion allows 'enormous freedom' to pursue the CPG role, instead of being concerned about potential negative outcomes for the individual, 'You can say what is actually true, rather what you think the boss wants to hear' ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Prospects for further promotion influence CPG activity, if an individual is close to changing appointments; he may be 'coasting' because he is thinking about his next job. So he might avoid taking a bold decision in case it affects that future job. ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

26) Do you think the career reward structure helps to optimise CPG activity?

Yes ☐

No ☐

No opinion / Don't know ☐

27) Please **rank the relevance** of the six issues and/or risks mentioned in terms of what are the most damaging to interpersonal trust building and maintenance in the CPG, (from 1 most damaging, to 6 least damaging)

Rotation of military members _____

Civilian-military differences _____

Financial situation _____

Prospects for further promotion _____

Different priorities _____

Sharing & exposing information _____

Do you have any comments about Issues & Risks regarding interpersonal trust?

Appendix E

Section 1 Demographics

1) What is your background?

Military	57
Civil Servant	15
Retired military	0

2) What element of the MOD Unified Customer (MUC) do you represent in the CPG?

MOD Head Office	9
Capability Sponsor	24
User	25
DE&S	14
S&T	3

3) How long ago were you appointed as member of your CPG?

18.39 months (72 responses) [18.4]

4) What is your MOD Grade/Rank?

Up to & including SO2	8
SO1	31
OF5 & above	32

5) How familiar are you with 'virtual' work (non co-located: telephone, email, VTC, team site)?

Have little experience	6
Have relevant experience	41
Very experienced	23

6) What percentage of your work time is devoted to CPG activity? 22.49% (72 responses) [22.5]

CPG Group tasks	49.15% (67 responses) [48.5]
CPG Individual tasks	52.28% (69 responses) [51.5]

CPG Virtual (non co-located) work	52.35% (68 responses) [51]
CPG Face-to-face work	50.58% (69 responses) [49]

The CPG to which I belong plans a joint oriented capability	45
The CPG to which I belong plans a 'focused' capability	19
The CPG to which I belong plans a single environment/service oriented capability	18
The CPG to which I belong plans a capability across a number of CPGs' work	31

- 10) How many CPGs do you sit at? 2.24 (70 responses) [2.2]

Section 2 Influential elements

Please answer based on your experience in the context of the CPG in which you work

11) Performance of CPGs in Capability Planning	Strongly agree				Strongly disagree				No opinion / Don't know
Capability planning activity is ' a lot better ', compared to previous models used to plan capabilities	3	6	20	11	5	5	1	1	15
Capability planning undertakes a wider perspective, compared to previous models used to plan capabilities	3	10	24	9	5	3		2	13
Capability planning emphasises a capability perspective and a through life approach, compared to previous models used to plan capabilities	4	10	23	5	9	4	1	2	10
Capability planning establishes clearer purposes, roles and responsibilities, compared to previous models used to plan capabilities	2	8	19	12	6	9	1	2	10
Capability planning enables a more effective and opportune integration of main stakeholders, compared to previous models used to plan capabilities	1	13	24	3	9		4	3	12
Capability planning is undergoing a ' developmental process ', aimed in the right direction, although the room for improvement is considerable	11	22	19	9	2	2		1	3
Capability planning works best in forum rather than by virtual means, although both modes complement each other	6	14	20	18	4	5	1		1
Contextual elements pertaining to each CPG influence greatly CPG activity	5	17	21	11	1	3		2	9
12) Nature of interpersonal relationships in CPGs	Strongly agree				Strongly disagree				No opinion / Don't know
Capability planning requires an environment for open, but guarded discussion , ensuring that ideas or proposals won't be widely disseminated	2	6	23	9	5	8	10	6	
To what extent the virtual context facilitate or make more difficult interpersonal relationships, is related to where the desk officer is in his job-cycle (initial / final)	2	12	15	9	6	5	4	1	14
The following elements represent challenges to interpersonal relationships in the CPG:									
Bringing members together to develop the CPG	4	21	17	9	3	5	5	2	3
Ensuring that new members are integrated to develop the CPG	3	19	23	6	7	4	4	2	1
Communicating and coordinating work in CPGs, keeping aligned understanding and individual's activity	7	17	25	8	6	4		1	1

The necessity of achieving a balance between co-located and virtual work in capability planning	3	8	23	14	8	4	2	3	4
To identify and implement the adequate information technology tools to undertake capability planning activity	10	12	16	14	6	3	3	2	3

Section 3 Interpersonal trust determinants

Please answer based on your experience in the context of the CPG in which you work

Relevance of the determinants to build and maintain interpersonal trust

13) Peripheral route Interpersonal trust <u>before</u> interaction in the CPG	Strongly agree				Strongly disagree				No opinion / Don't know
In the CPG, people tend to assess trustworthiness of new CPG members through information from third parties that they know	3	3	8	16	6	13	9	6	5
The information provided by third parties is 'coloured' by the perception about the subject source, and his potential bias towards the subject of his comments	4	13	18	8	7	6	3	4	6
In the CPG, people tend to trust new CPG members, even if they don't know them, because they have a natural propensity to trust	2	5	12	12	9	17	3	7	2
In the CPG, people that have had a positive experience ('history') in the past working with a new CPG member, tend to trust him from the outset	8	26	18	9	2		1	1	4
In the CPG, people that have had a negative experience ('bad history') in the past working with a new CPG member, tend to distrust him from the outset	7	18	18	10	6		2	2	6
In the CPG, people tend to trust new CPG members, because if they are chosen to represent their home organisations, they must be good at their job		4	13	18	10	7	10	4	2
In the CPG, people tend to trust new CPG members, because they work for the MOD and so they behave following some 'explicit and tacit rules'		5	13	13	10	7	8	8	4
In the CPG, people tend to trust new CPG members, because they have reached certain ranks and so they act according to some 'general principles and practices'	1	6	19	5	16	4	9	6	3
14) Central route Interpersonal trust <u>through</u> interaction in the CPG	Strongly agree				Strongly disagree				No opinion / Don't know
In the CPG, people tend to trust members who show themselves to have the skills and competences to get the CPG job done competently	15	28	20	4		2			
In the CPG, people tend to trust members who stick to one position, saying the same inside and outside the CPG	6	28	14	11	4	4	2	1	

In the CPG, people tend to trust members who do what they say will do	15	35	11	3	2	2	1	
In the CPG, people tend to trust members who show care and concern about the others, displaying willingness to do good for the other CPG members	6	13	23	13	6	5	1	2
The skills and competences of the members are generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly	9	13	20	12	8	2	2	1
The integrity of the members is generally assumed in the CPG, and evidence about its absence is critical in losing trust quickly	7	20	20	6	6	4	1	1

15) Habitual route

Interpersonal trust <u>after extensive</u> interaction in the CPG	Strongly agree				Strongly disagree				No opinion / Don't know
In the CPG, people tend to trust other members because of the tight social bonds they have developed	2	9	16	12	3	17	4	4	2
In the CPG, people tend to trust other members when they have accumulated personal knowledge, and they understand their needs, preferences and priorities	4	16	32	4	4	4	1	1	1
In the CPG, people tend to trust other members because there is a 'regular pattern' of trusting behaviour by members	1	9	22	14	8	7	4	2	3

16) Relative relevance and relation between the routes to interpersonal trust

Peripheral route

Interpersonal trust <u>before</u> interaction in the CPG	Strongly agree				Strongly disagree				No opinion / Don't know
In the CPG, people tend to trust other CPG members based on what they already know before interaction in the CPG context	1	12	22	16	5	6	3	1	3

Central route

Interpersonal trust through interaction in the CPG

In the CPG, people tend to trust other CPG members when they have already had the opportunity to work with them and then have assessed them	8	22	21	9	3	2	1		3
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Habitual route

Interpersonal trust after extensive interaction in the CPG

In the CPG, people tend to trust other CPG members even more, if they have a mature relationship and they have gained more knowledge about each other	11	26	14	7	4		2	1	3
---	----	----	----	---	---	--	---	---	---

Relation between the routes – General

	Strongly agree				Strongly disagree				No opinion / Don't know
When considered over time, all the routes (Peripheral, Central and Habitual as explained above) have a function; although day to day one can be more important than another	3	22	19	11	5	1	1		7

It is necessary to go through the Peripheral and Central route in order for the CPG to work well	1	7	20	19	4	3	4	3	8
Progressing in building interpersonal trust through the routes is influenced by the level of interaction needed across a particular CPG to get the job done	2	12	24	14	5	2			10
Interpersonal trust between CPG members is fragile... It can go up and down easily	5	10	11	13	10	12	1	4	3
Different members of the CPG develop interpersonal trust through different routes	9	19	19	16	3				4
Most of the CPGs reach the Habitual route to build interpersonal trust	1	9	16	10	8	3	2	1	19
Most of the CPGs reach the Central, but not the Habitual route to build interpersonal trust		7	9	14	8	7	2		14
Most of the CPGs reach only the Peripheral route to build interpersonal trust, without moving into the Central or Habitual routes		1	6	6	9	7	11	7	21
CPG members tend to progress building and maintaining interpersonal trust earlier in (tick as necessary):									
CPGs with lower interdependence with other capabilities	1	8	12	13	1	6	7	2	15
CPGs with a reduced stakeholders base	4	17	21	7	3	6		1	8
CPGs related to a small specialists' community	7	20	19	7		4	2	1	7
Single service-oriented CPGs (ex: Above Water)	3	21	13	10		3		2	12
Joint-oriented CPGs (ex: ISTAR)		1	4	11	8	15	8	5	13

17) Please rank the relevance of the three routes mentioned, to build and maintain interpersonal trust in the CPG, (1 most important, to 3 least important)

Central route : 1.52 (65 respondents)

Habitual route : 1.99

Peripheral route : 2.52

Do you have any comments about Interpersonal trust in the CPG?

Section 4 issues and risks regarding interpersonal trust

Please answer based on your experience in the context of the CPG in which you work

18) Issues and risks - General	Strongly agree				Strongly disagree				No opinion / Don't know
The 'biggest pressures' to CPGs, influencing interpersonal trust, are always going to be external	3	12	15	8	5	7	9	3	6
Risks regarding interpersonal trust are not managed 'in any manner'	12	17	12	7	5	6	1	1	7
19) Rotation of military members	Strongly agree				Strongly disagree				No opinion / Don't know
The rate of rotation of military members of the CPG does not allow enough time to build and maintain interpersonal trust in the CPG	3	11	16	12	9	12	3	2	1
The rate of rotation of military members of the CPG slows down the process to gain more knowledge about each other	5	9	22	11	6	11	4		1
The rate of rotation of civilian members of the CPG is an issue regarding interpersonal trust in the CPG	4	5	7	15	10	11	9	4	4
Longer membership by civilians in the CPG encourages them to have a different approach to risk because they are more likely to stay in post when risks are realised	6	6	15	12	12	2	5	3	8
20) Civilian-military differences	Strongly agree				Strongly disagree				No opinion / Don't know
Military members of the CPG tend to attribute trust to new CPG members through what they already know before interaction in the CPG context, <u>more than</u> the civilians members		13	15	10	7	4	4	2	14
Military members of the CPG tend to trust each other more quickly when they have already had the opportunity to work and assess each other, <u>compared to</u> civilian members	3	19	15	14	2		4	3	9
Military members of the CPG tend to progress more quickly to develop a mature interpersonal relationship, fostering trust, <u>compared to</u> civilian members	3	11	21	10	4	3	6	3	8
Differences between military and civilian CPG members pose 'challenges' to the gaining of more knowledge about each other		10	12	12	10	8	7	6	4
The civilian-military differences are irrelevant if a civilian is really capable	23	19	9	9	3	3	1		3

The civilian-military differences are irrelevant if a military officer is really capable	17	21	10	6	4	6	1	1	3
Civil servants in the CPG tend to take a more 'integrated' perspective about interdependencies in capability planning, considering other tasks that they may be aware of, where there could be some conflict	1	5	8	12	11	8	12	4	5
Military members of the CPG bring 'fresh, very useful' operational experience from deployed operations	7	18	22	11	5	3	1		2
Civil servants in the CPG tend to be more bureaucratic than their military counterparts	4	9	12	9	12	5	5	7	3
Military members of the CPG tend to be more task oriented than their civilian counterparts	8	12	15	14	6	4	3	3	3
Military and civilians bring to the CPG views that complement each other	7	16	22	14	5	2			3
There are no cultural and style differences between civilian and military members in a CPG	1		7	3	12	15	17	12	1
To perform better, it is necessary to 'overcome prejudices', breaking down 'tribal barriers' opening the flow of communication and reception to other ideas	13	19	25	7	1	3		1	1
In the CPG all the members use the same technical language	1	10	13	11	8	9	14	2	1

21) Financial situation	Strongly agree				Strongly disagree				No opinion / Don't know
Constrained financial resources are a permanent consideration which drives the devising of 'options', 'everything CPGs do is driven by the financial situation'	23	21	16	4	1		2		1
Financial constraints set tight saving objectives on CPGs. As decisions being considered impact the services, restrictions influence negatively interpersonal trust at working level	6	13	13	5	8	9	6	4	4
Unforeseen cuts in resources and subsequent adjustment measures, negatively influence interpersonal trust in the CPGs, when requirements have to be re-scoped to deliver some form of capability	5	12	15	9	10	7	5	2	3
Resource issues drive Centre staff as they attempt to save money	24	24	16	2	1				1
Resource issues drive Capability staff as they attempt to save money	18	24	14	7	2		1		1
The financial situation is an issue related to the allocation of priorities across different capability areas	24	18	14	2		3	1	1	2
The financial situation is an issue between CPGs in the same capability area	16	16	18	6		5		2	4
The impact of the financial situation is aggravated by lack of priorities in different areas of capability, without clarity about what capabilities give up to deliver within resources	14	18	15	8	3	4	1	1	2

Lack of priorities at inter-capability area level, undermines interpersonal trust in the CPG	7	9	10	10	10	7	3	5	6
Constrained financial resources is an issue, about which nothing can be done unless the capability management process changes to 'just buy off the shelf'	3	3	12	5	7	10	13	12	2

22) Different priorities	Strongly agree				Strongly disagree				No opinion / Don't know
Different priorities emerge from different views brought into the CPG: a capability view, a single service view, whether a support or science view, a money view, etc.	7	21	24	12	1		1		2
The existence of different priorities is 'a constant problem' that undermines interpersonal trust in the CPG	1	10	10	13	5	17	6	3	1
People can take a decision in the context of a program area or a CPG, ignoring the assumptions, risks and issues that may have an impact on another CPG	4	17	19	11	3	8	2	2	
'Vested interests' could work both ways, in 'favour' of an individual's home allegiance, or 'against' a service when trying to demonstrate being 'purple', for example.	5	16	22	16	1	3	3		1
Additional constraints come into the CPG from individuals' own organisational structures, because there is a limit to what people can really follow through.	7	21	18	18	2	1			2
Interpersonal trust is an element that helps to surmount diverging priorities of CPG members, helping them to work around those influences	1	12	29	18	1	1	1	1	2
The best thing to overcome organisational rivalries and to foster trust is (tick as necessary):									
To understand what is actually required	19	28	15	3	1				
To understand what is policy compliant	9	18	22	9	2	1	1		
To understand and follow the strategic intent	13	24	18	6	1				
The following influences detract more from the overall benefit to defence of CPG work (tick as necessary):									
Other CPGs' interests	2	10	13	12	11	6	6	1	4
FLCs, Single services interests	12	14	20	8	3	2	3	4	3
Specialists comm: SF, A&SDS/specialist military org, ISTAR, Air vs Land, Naval interest groups, EU legislation, accreditors	1	7	4	3	5		2		30
DSTL interests		6	6	13	16	7	7	1	5
DE&S interests	2	9	15	11	14	4	3	1	3
Cap Sponsor interests	3	9	18	8	7	5	7	1	4
MOD Head Office interests	7	14	14	11	4	4	3	1	5

23) Different priorities – Single service agendas	Strongly agree				Strongly disagree				No opinion / Don't know
CPG members have a natural allegiance to their own service	8	21	24	10	4	1	1		1
Single service agendas are inherent to any joint environment, project, or even a joint job, so they are present in CPGs. They are 'a fact of service life'	10	21	23	8	2	3			1
The struggle between service agendas is an expression of interests to gain financial resources, and direct them according to particular priorities	12	21	12	13	3	1	4		2
Single service influence is the biggest issue regarding interpersonal trust in the CPG	6	5	10	15	9	9	6	6	3
Single service agendas affect interpersonal trust in the CPG, because they are really 'divisive'	7	3	15	14	12	4	7	5	1
Civilian CPG members are 'immune' to single service agendas		2	4	14	13	12	12	8	3
Behaviours driven by single service agendas are not always clearly evident in the CPG, 'in joint areas... you believe they are operating to another authority'	2	4	11	22	7	9	3	1	9
If there were members from the other services in the CPG an individual would be more 'cautious'	4	6	9	10	5	11	4	6	6
Single service influence can come from a service's hierarchy, denominating 'vital ground', 'platforms that we want to keep'; 'things that we will not lose', and then the individual 'would be an advocate for those types of capabilities'	11	16	23	15			2		
Single service influence could be exerted through one service dominant in the staff base of a capability area, endorsing what the hierarchy in that service says	7	18	23	13	1	2	3	1	1
Single service influence would be apparent when one individual participates in the production of a piece of work that 'may be seen as disadvantaging his service'	2	13	19	12	9	3	2	1	7
An individual should be certain that the 'system' would not disadvantage him in his career when making decisions that 'go against what is perceived to be the way he should be voting', when he is pursuing overall defence benefit	7	12	17	13	2	6	2	3	6
Changes to importance paid by the services to a CPG's planning area introduce difficulties in terms of absence of clear priorities and consistency to perform CPG activity	6	10	19	19	7		3		5
Lack of importance of some CPG's activities to the FLCs, is reflected in low attendance at CPG meetings, with members replaced by delegates; or members attending without adequate preparation	11	13	21	13	1	3	3	1	2
In the MoD everybody is very busy. It is extremely difficult to find some time to perform CPG duties	12	8	20	10	6	6	4	1	
In the CPGs, staff primary loyalty is to...									
Defence as a whole									

Home organisation or service 34
No opinion / Don't know 6

24) Sharing and exposing information	Strongly agree				Strongly disagree				No opinion / Don't know
Withholding information is the degree to which, information is declared late, or people aren't properly consulted; as opposed to when people are open	1	8	11	17	9	4	3	2	13
Withholding information is a way to protect an activity or resource, in a behaviour encouraged by the 'system'. Avoiding revealing an individual's 'full hand', or the full extent of a project, may help to protect it	2	13	18	16	7	4	2	1	6
Elements of withholding information between CPG members 'do occur, but tend not to be too bad when getting into bigger decisions'		3	15	18	5	10	8	3	6
In many areas, information 'has been used against, those who provide it'	2	2	8	12	10	12	10	2	10
CPG members are averse to passing some information to someone they aren't sure would use it correctly	3	6	15	15	6	10	6	2	5
Different priorities will determine what information can or cannot be exposed	2	7	20	18	3	8	5	2	3
Withholding information is a risk to a CPG member's credibility (ability plus integrity)	5	19	21	13	3	3	1	1	2
Individuals perceived by the group as not being open, or pursuing other interest, risk not being seen as a trusted part of the group anymore	4	24	26	9	1	1			2
Withholding information is an issue, 'the single most damaging thing', regarding interpersonal trust in the CPG		7	17	9	7	12	6	3	7
Interpersonal trust stands as a 'fundamental factor' for the functioning of CPGs, facilitating the flow of information necessary to accomplish CPG goals.	5	14	24	15	1	5	1	2	1
Any 'weakness' about managing information arises from the poor quality of information management systems that make it difficult to find relevant data, not due to people deliberately withholding information.	9	8	16	18	8	2	4		2
If a CPG belongs to a small community, its members tend to be stovepiped from a defence perspective	3	6	20	14	9	6	6		6
Some CPG members manage much more information, having a clearer perspective than other members	2	27	22	9	6		3		3
The possibility to share information in a more 'restricted' format allows CPGs to work; a member doesn't have to pass compromising information to everyone. Thus, people that 'wouldn't need to know can be left out, until you are in a position to have the information tested in a wider context.'		8	24	14	4	3	7	1	10
There are situations where the CPG construct can undermine decision-making, because the CPG is such an inclusive arrangement that members struggle to	1	14	16	10	4	9	7	3	5

make decisions as they tend to do discussions outside the CPG in a more 'restrictive' format									
There is a tendency to share information bilaterally, thus often the whole group is not included and some members may miss out on information	2	11	10	16	9	10	9		3
The constant struggle to obtain information plays against the formation of trust	1	6	11	13	15	8	4	3	7

25) Prospects for further promotion	Strongly agree				Strongly disagree				No opinion / Don't know
The reporting chain influences the behaviour of military CPG members, because it decides whether they get promoted or not.	2	8	11	8	5	8	6	6	3
In practical terms, individuals don't like 'to irritate' the person who writes his report, or the person whose writes his either'.	9	16	10	10	5	4	1	1	1
Those working in the CAP areas need to be careful about what they say in case it affects their careers	3	7	5	10	9	9	7	3	3
The report system encourages pursuing single service agendas, 'nobody gets promoted by the joint system because there isn't one, is a single service system'.	4	8	12	8	7	6	5	1	5
There is trust between everybody in the CPG, but only to a certain extent, because everyone is aware that the other members are under their own pressures		3	20	17	7	6	2		2
Prospects for further promotion drive controversial behaviour in the CPG, where a member's appraisal might say he did very well because he followed the desire of his line manager, even though this could have been in opposite direction to the CPG's opinion	2	6	8	16	7	12	6	6	4
An element to the 'career aspect' is the interest of the individual's chain of command, or how driven the members of the chain are by the outcomes of the CPG	2	5	13	18	7	7	5	3	7
The 'career aspect' doesn't influence interpersonal relationships between CPG members, because, they are not pursuing self-interest, they wish to make defence the best it can be	1	8	14	12	17	7	5	2	1
People in the CPG act to safeguard the interest of the organisation they represent	1	22	17	22	3	1	1		
The prospect of further promotion is a 'secondary consideration', because behaviour in a CPG is not heavily influenced by how a member's career might be affected	1	14	10	16	5	10	3	1	3
CPG activity plays a minor part in overall CPG members' performance evaluation, it doesn't make 'an awful lot of difference'	8	14	17	12	5	8	1	1	2
The prospect of further promotion plays a part at higher levels, above CPG. But, not in the CPG		3	9	8	5	9	5		17

There is incentive for a military member of a CPG to make note of his posting, by making a relevant decision, instead of setting solid foundations with something that might mature five, ten years downstream, although the long-term consequences of the decision might not be well understood at this time	2	6	12	13	7	11	5	7	3
Individuals look for sponsorship from a given authority level, 'a power of patronage', from a person that in the future, 'is going to be in a position of authority... that it's going to payback'.	3	8	8	14	6	10	8	5	6
Prospects for further promotion have higher influence on more junior personnel, where individuals are somewhat more guarded in what they are willing to say or how they are willing to challenge.	2	5	14	14	9	12	6	2	3
In small 'capability communities', more junior individuals are conscious that it is likely that the relationship between equals in a CPG can change in the future, for a superior-subordinate relationship	1	6	7	17	11	3	7		15
When members reach their 'career ceiling', they don't worry about perception from senior people so much, because 'as long as they do their job competently and clearly in the best interest of defence, there are very few risks to them and people around them'	5	16	24	13	3	4	2		
The lack of prospects for further promotion allows 'enormous freedom' to pursue the CPG role, instead of being concerned about potential negative outcomes for the individual, 'You can say what is actually true, rather what you think the boss wants to hear'	7	12	11	19	6	7	1		3
Prospects for further promotion influence CPG activity, if an individual is close to changing appointments; he may be 'coasting' because he is thinking about his next job. So he might avoid taking a bold decision in case it affects that future job.	1	6	5	17	9	13	8	6	2

26) Do you think the career reward structure helps to optimise CPG activity?

Yes	7
No	41
No opinion / Don't know	18

27) Please **rank the relevance** of the six issues and/or risks mentioned in terms of what are the most damaging to interpersonal trust building and maintenance in the CPG, (from 1 most damaging, to 6 least damaging)

Financial situation	1.82 (68 respondents)
Different priorities	2.01 (68 respondents)
Sharing & exposing information	3.46 (68 respondents)
Rotation of military members	4.00 (68 respondents)
Civilian-military differences	4.69 (68 respondents)
Prospects for further promotion	4.91 (68 respondents)

Do you have any comments about Issues & Risks regarding interpersonal trust?